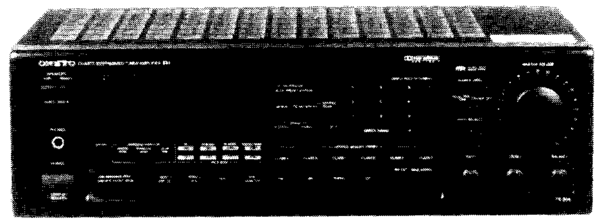
Ref. No.0M3399

ONKYO SERVICE MANUAL

QUARTZ SYNTHESIZED TUNER AMPLIFIER

MODEL TX-904
MODEL TX-906





Black model

BHUD, BHUDN, BHUDC	120V AC, 60Hz
BHUP	230V AC, 50Hz
BHUW	120/220V AC, 50/60Hz
BHUQA	240V AC, 50Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS INDENTIFIED BY MARK ⚠ ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

ONKYO® AUDIO COMPONENTS

TABLE OF CONTENTS

SPECIFICATIONS

OTHER MODELS

AMPLIFIER SECTION

	TX-906	TX-904
Power Output:	Stereo mode 80 watts per channel min. RMS. at 8 ohms, both channels driven, from 20Hz to 20,000Hz, with no more than 0.08% total harmonic distortion.	Stereo mode 60 watts per channel min. RMS. at 8 ohms, both channels driven, from 20Hz to 20,000Hz, with no more than 0.08% total harmonic distortion.
Musical Power Output:	2 × 190 watts at 4 ohms 1 kHz DIN 2 × 130 watts at 8 ohms 1 kHz DIN	2 × 160 watts at 4 ohms 1 kHz DIN 2 × 100 watts at 8 ohms 1 kHz DIN
Continuous Power Output:	2 × 115 watts at 4 ohms 1 kHz DIN 2 × 90 watts at 8 ohms 1 kHz DIN	2 × 90 watts at 4 ohms 1 kHz DIN 2 × 70 watts at 8 ohms 1 kHz DIN
	Surround/Simul mode 75 watts per channel min. RMS. at 8 ohms both channels driven, from 20Hz to 20,000Hz, with no more than 0.08% total harmonic distortion. (FRONT) 12 watts per channel min. RMS. at 8 ohms 1,000Hz with no more than 0.8% total harmonic distortion. (REAR or REMOTE)	Simul mode 55 watts per channel min. RMS. at 8 ohms both channels driven, from 20Hz to 20,000Hz, with no more than 0.08% total harmonic distortion. (FRONT) 12 watts per channel min. RMS. at 8 ohms 1,000Hz with no more than 0.8% total harmonic distortion. (REMOTE)
Total Harmonic Distortion:	0.08% at rated power (FRONT)	0.08% at rated power (FRONT)
IM Distortion:	0.08% at rated power (FRONT)	0.08% at rated power (FRONT)
Damping Factor:	60 at 8 ohms (FRONT)	60 at 8 ohms (FRONT)
Sensitivity and Impedance:	Phono: 2.5mV/50 kohms CD/Tape Play: 150mV/50 kohms Tape Rec: 150mV/2.2 kohms Pre out (REAR): 1V, 2.2 kohms Pre out (CENTER): 1V, 2.2 kohms	Phono: 2.5mV/50 kohms CD/Tape Play: 150mV/50 kohms Tape Rec: 150mV/2.2 kohms
Phono Overload:	120mV RMS. at 1,000 Hz, 0.08 % THD.	120mV RMS. at 1,000 Hz, 0.08% THD.
Frequency Response:	20 to 30,000 Hz, +/−1 dB	20 to 30,000 Hz, +/−1 dB
RIAA Deviation:	20 to 20,000 Hz, +/−0.8 dB	20 to 20,000 Hz, +/−0.8 dB
Tone Control:	BASS: +/−10 dB at 100 Hz TREBLE: +/−10 dB at 10,000 Hz	BASS: +/−10 dB at 100 Hz TREBLE: +/−10 dB at 10,000 Hz
Signal to Noise Ratio:	PHONO : 80 dB (IHF A, 5mV input) CD/TAPE: 100 dB (IHF A)	PHONO: 80 dB (IHF A, 5mV input) CD/TAPE: 100 dB (IHF A)
Muting:	− ∞dB	− ∞dB

VIDEO SECTION (TX-906/904)

Signal sensitivity and impedance

VDP/VCR normal input, output: 1 V_{p-p}, 75 ohms

TUNER SECTION

FM:

Tuning Range:	European models: 87.5 — 108.0MHz (50kHz steps) Canadian models: 87.5 — 108.0MHz (100kHz steps)
Usable Sensitivity:	Mono: 11.2dBf, 1.0µV, 75 ohms 0.9µV (S/N 26dB, 40kHz Devi.) 75 ohms DIN Stereo: 18.0dBf, 2.2µV, 75 ohms 23µV (S/N 46dB, 40kHz Devi.) 75 ohms DIN
50dB Quieting Sensitivity:	Mono: 18.0dBf, 2.2µV, 75 ohms Stereo: 37.2dBf, 20µV, 75 ohms
Capture Ratio:	1.5dB
Image Rejection Ratio:	85dB
IF Rejection Ratio:	90dB
Signal-to-Noise Ratio:	Mono: 73dB Stereo: 67dB
Selectivity	50dB DIN (±300kHz, 40kHz devi.)
AM Suppression Ratio:	50dB
Harmonic Distortion:	Mono: 0.15% Stereo: 0.25%
Frequency Response:	30 − 15,000Hz ± 1.5dB
Stereo Separation:	45dB at 1kHz

AM:

Tuning Range:	European models: 522 — 1611kHz (9kHz steps) Canadian models: 530 — 1710kHz (10kHz steps) Saudi Arabia & Worldwide models: 531 — 1602kHz (9kHz steps)
Usable Sensitivity:	30µV
Image Rejection Ratio:	40dB
IF Rejection Ratio:	40dB
Signal-to-Noise Ratio:	40dB
Harmonic Distortion:	0.7%

GENERAL

Power Supply:	European models: AC230V, 50Hz Canadian models: AC120V, 60Hz U.K & Australian models: AC 240V, 50Hz Worldwide models: 120 and 220V switchable, 50/60Hz
Dimensions (W × H × D):	455 × 150 × 331.5 mm 17-15/16" × 5-7/8" × 13-1/16"
Weight:	TX-906: 10.8 kg, 23.8 lbs TX-904: 9.7 kg, 21.4 lbs

Specifications and features are subject to change without notice.

120V MODEL

AMPLIFIER SECTION

	TX-906	TX-904
Power Output:	Stereo mode 80 watts per channel min. RMS. at 8 ohms, both channels driven, from 20Hz to 20,000Hz, with no more than 0.08% total harmonic distortion. Surround/Simul mode 75 watts per channel min. RMS. at 8 ohms both channels driven, from 20Hz to 20,000Hz, with no more than 0.08% total harmonic distortion. (FRONT) 12 watts per channel min. RMS. at 8 ohms 1,000Hz with no more than 0.8% total harmonic distortion. (REAR or REMOTE)	Stereo mode 60 watts per channel min. RMS. at 8 ohms, both channels driven, from 20Hz to 20,000Hz, with no more than 0.08% total harmonic distortion. Simul mode 55 watts per channel min. RMS. at 8 ohms both channels driven, from 20Hz to 20,000Hz, with no more than 0.08% total harmonic distortion. (FRONT) 12 watts per channel min. RMS. at 8 ohms 1,000Hz with no more than 0.8% total harmonic distortion. (REMOTE)
Total Harmonic Distortion:	0.08% at rated power (FRONT)	0.08% at rated power (FRONT)
IM Distortion:	0.08% at rated power (FRONT)	0.08% at rated power (FRONT)
Damping Factor:	60 at 8 ohms (FRONT)	60 at 8 ohms (FRONT)
Sensitivity and Impedance:	Phono: 2.5mV/50 kohms CD/Tape Play: 150mV/50 kohms Tape Rec: 150mV/2.2 kohms Pre out (REAR): 1V, 2.2 kohms Pre out (CENTER): 1V, 2.2 kohms	Phono: 2.5mV/50 kohms CD/Tape Play: 150mV/50 kohms Tape Rec: 150mV/2.2 kohms
Phono Overload:	120mV RMS. at 1,000 Hz, 0.08 % THD.	120mV RMS. at 1,000 Hz, 0.08% THD.
Frequency Response:	20 to 30,000 Hz, +/−1 dB	20 to 30,000 Hz, +/−1 dB
RIAA Deviation:	20 to 20,000 Hz, +/−0.8 dB	20 to 20,000 Hz, +/−0.8 dB
Tone Control:	BASS: +/−10 dB at 100 Hz TREBLE: +/−10 dB at 10,000 Hz	BASS: +/−10 dB at 100 Hz TREBLE: +/−10 dB at 10,000 Hz
Signal to Noise Ratio:	PHONO : 80 dB (IHF A, 5mV input) CD/TAPE: 100 dB (IHF A)	PHONO: 80 dB (IHF A, 5mV input) CD/TAPE: 100 dB (IHF A)
Muting:	− ∞ dB	− ∞ dB

VIDEO SECTION (TX-906/904)

Signal sensitivity and impedance
VDP/VCR normal input, output: 1 $V_{p\text{-}p}$, 75 ohms

TUNER SECTION (TX-906/904)

FM:

Tuning Range:	87.5 — 108.0MHz (100kHz steps)
Usable Sensitivity:	Mono: 11.2dBf, 2.0μV Stereo: 17.2dBf, 4.0μV
50dB Quieting Sensitivity:	Mono: 17.2dBf, 4.0μV Stereo: 37.2dBf, 40μV
Capture Ratio:	1.5dB
Image Rejection Ratio:	40dB
IF Rejection Ratio:	90dB
Signal-to-Noise Ratio:	Mono: 73dB Stereo: 67dB
Alternate Channel Attenuation:	55dB
AM Suppression Ratio:	50dB
Harmonic Distortion:	Mono: 0.15% Stereo: 0.25%
Frequency Response:	30 — 15,000Hz ± 1.5dB
Stereo Separation:	45dB at 1kHz/30dB at 100 — 10.000Hz
Muting Level:	17.2dBf, 4μV

AM:

Tuning Range:	530 — 1710kHz (10kHz steps)
Usable Sensitivity:	30μV
Image Rejection Ratio:	40dB
IF Rejection Ratio:	40dB
Signal-to-Noise Ratio:	40dB
Harmonic Distortion:	0.7%

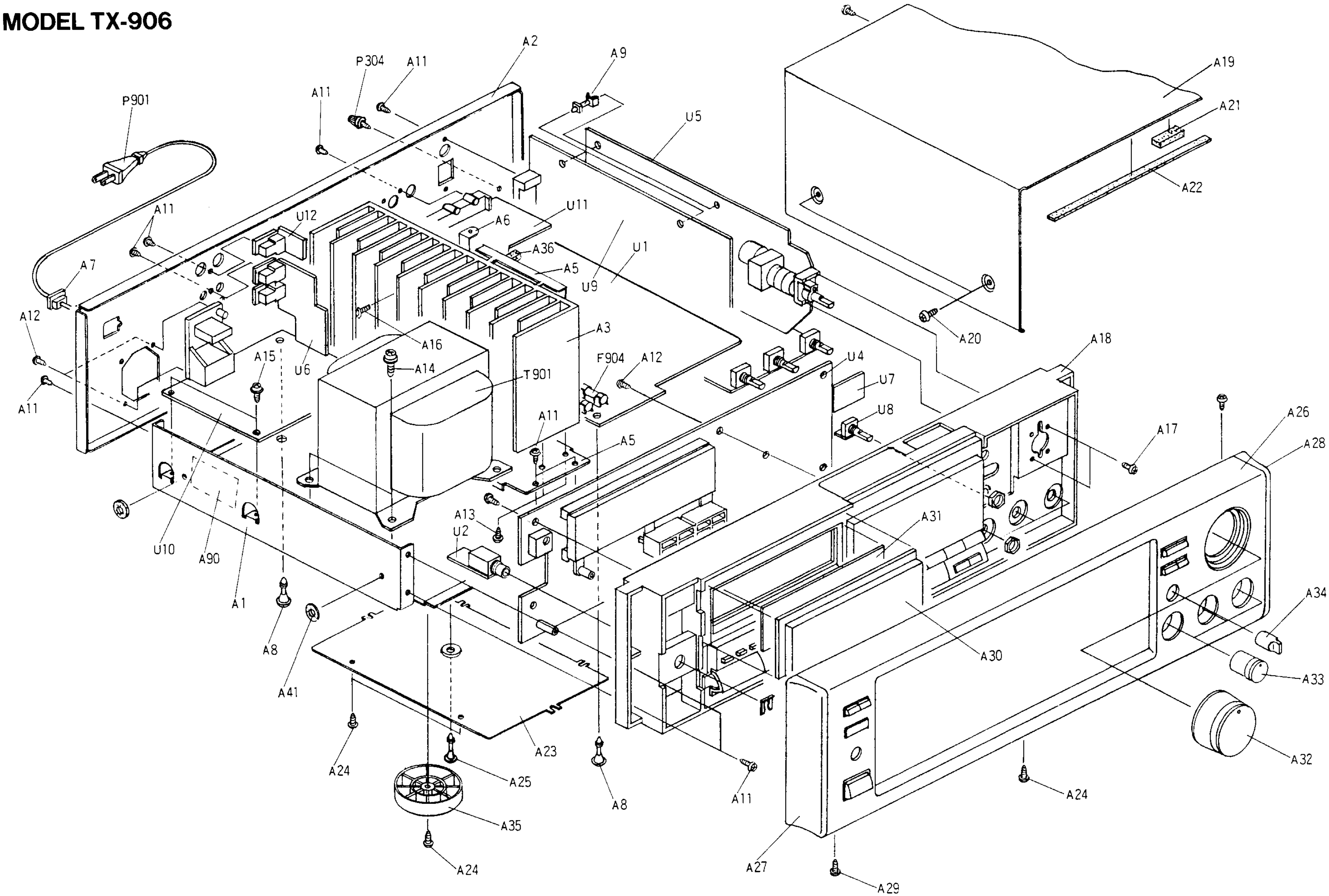
GENERAL

Power Supply:	AC120V, 60Hz
Dimensions (W × H × D):	455 × 150 × 331.5 mm 17-15/16″ × 5-7/8″ × 13-1/16″
Weight:	TX-906: 10.8 kg, 23.8 lbs TX-904: 9.7 kg, 21.4 lbs

Specifications and features are subject to change without notice.

EXPLODED VIEW

MODEL TX-906



PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
A1	27100239A	Chassis
A2	27121443	Back panel <D>
	27121444	Back panel <P>
	27121446	Back panel <W>
	27121447	Back panel <Q>
A3	27160286	Radiator
A4	27141474	Bracket SH
A5	27130653	Bracket H
A6	27141498	Bracket S
A7	27300750	⚠ Bushing
A8	27190657	KGLS-18RT,Holder
A9	27190062	KGLS-12S,Holder
A10	801433	Sems tapping screw
A11	834430088	3TTS+8B(BC),Self-tapping screw
A12	833430080	3TTP+8B(BC),Self-tapping screw
A13	833430108	3TTS+10B(BC),Self-tapping screw
A14	830440089	4TTC+8C(BC),Self-tapping screw
A15	831130088	3TTW+8B,Self-tapping screw
A16	82143015	3P+15FN(BC),Pan head screw
A17	82143006	3P+6FN(BC),Pan head screw
A18	27110638B	Front bracket ass'y
A19	28184476A	Top cover
A20	834430088	3TTS+8B(BC),Self-tapping screw
A21	28141132	Cushion
A22	28140024	Cushion
A23	27170280A	Bottom panel
A24	834430088	3TTS+8B(BC),Self-tapping screw
A25	27190657	KGLS-18RT,Holder
A26	1A274121	Front panel ass'y
A27	28125234A	End cap L
A28	28125235A	End cap R
A29	833430080	3TTP+8B(BC),Self-tapping screw
A30	28191596	Clear plate
A31	28133262Y	Back plate
A32	28324372	Knob VOLUME
A33	28324376A	Knob TONE
A34	28324378	Knob IB
A35	27175251 or 27175251-1	Leg
A36	28140020	Cushion
A41	27270212	Spacer <P/W/Q>
A90	29360626-1	Fuse label
F901	252051	⚠ 6A ST-6,Primary fuse <D/W>
F902	252076	⚠ 3.15A-SE-EAK,Primary fuse <P/W/Q>

REF. NO.	PART NO.	DESCRIPTION
F903	252075	⚠ 2.5A-SE-EAK,AC outlet fuse <P>
F904,F905	252051	⚠ 6A ST-6,Secondary fuse <D>
	252078	⚠ 5A-SE-EAK,Secondary fuse <P/W/Q>
JL701	2041302010	NCFC1-302010,Flat cable
P304	25060044	Terminal GND
P901	253123, 253146 or 253161	⚠ AS-UC-6 #18, Power supply cord <D>
	253148	⚠ AS-CEE,Power supply cord <P>
	253092-1A	⚠ AS-CEE-2,Power supply cord <W>
	253118	⚠ AS-SAA,Power supply cord <Q>
P902,P903	25050346	⚠ NSCT-2P173,AC outlet <Q>
Q505,Q506	2201653, 2201654, 2201655, 2202272 or 2202273	2SC3856-O, 2SC3856-Y , 2SC3856-P, 2SC3907-R or 2SC3907-O,Power transistors
Q507,Q508	2201663, 2201664, 2201665, 2202262 or 2202263	2SA1492-O, 2SA1492-Y, 2SA1492-P, 2SA1516-R or 2SA1516-O,Power transistors
T901	2300666	⚠ NPT-1110D,Power transformer <D>
	2300667	⚠ NPT-1110P,Power transformer <P>
	2300668	⚠ NPT-1110DG,Power transformer <W>
	2300669	⚠ NPT-1110Q,Power transformer <Q>
U1	1A274587-1	NAAF-4187-1,Selector and power amplifier pc board ass'y <D>
	1A274587-1A	NAAF-4187-1A,Selector and power amplifier pc board ass'y <P/W/Q>
U2	1A274588-1	NAETC-4188-1,Headphone terminal pc board ass'y
U4	1A274589-1	NADIS-4189-1,Display circuit pc board ass'y <D>
	1A274589-1A	NADIS-4189-1A,Display circuit pc board ass'y <P/Q>
	1A274589-1B	NADIS-4189-1B,Display circuit pc board ass'y <W>
U5	1A274590-1	NAAF-4190-1,Volume and surround circuit pc board ass'y
U6	1A274591-1	NADG-4191-1,RI/MR terminal pc board ass'y <D>
	1A274591-1A	NADG-4191-1A,RI/MR terminal pc board ass'y <P/W/Q>

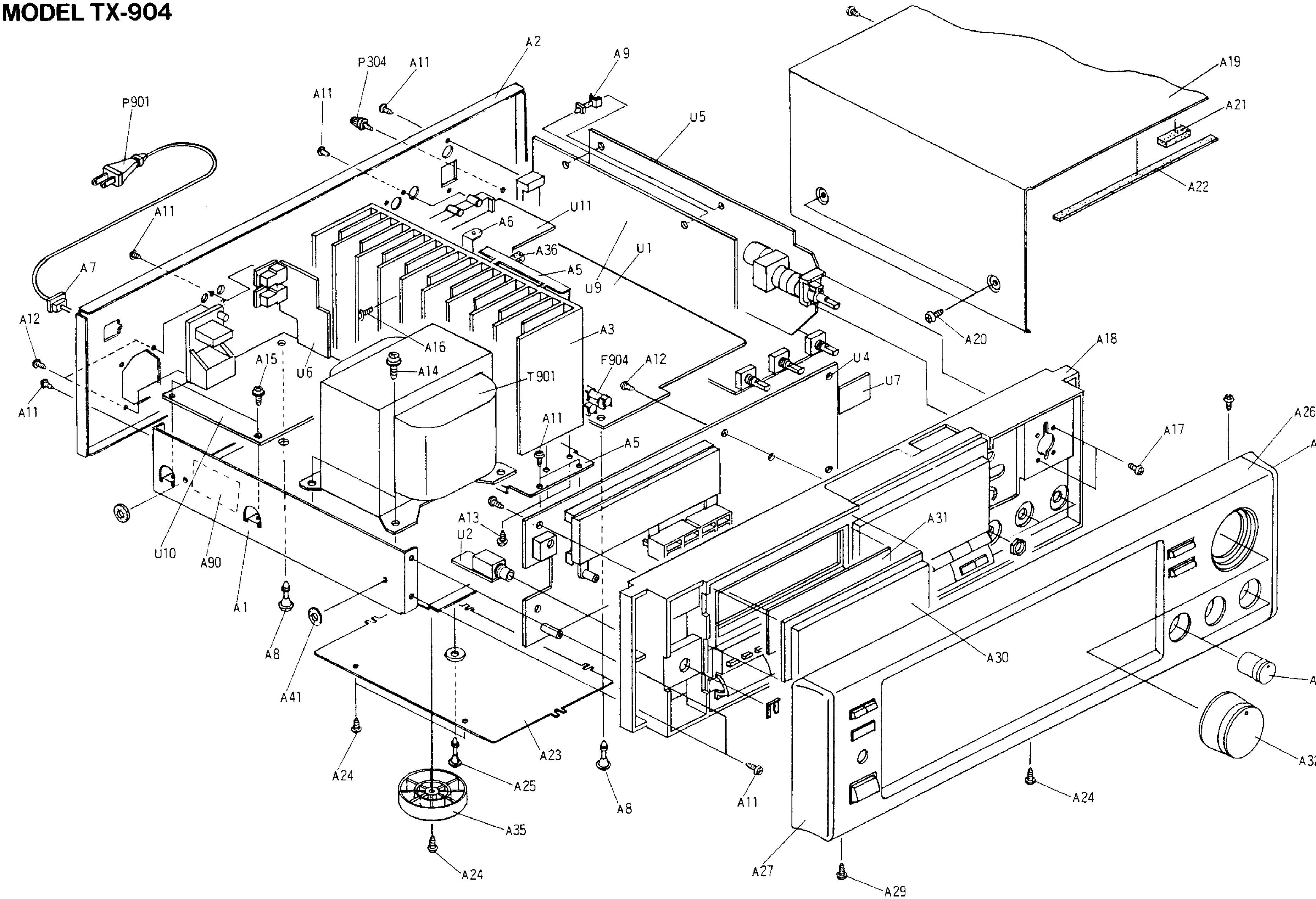
REF. NO.	PART NO.	DESCRIPTION
U7	1A274592-1	NASW-4192-1,Operation switch pc board ass'y
U8	1A274593-1	NAETC-4193-1,Input balance volume pc board ass'y
U9	1A274594-1	NARF-4194-1,Tuner circuit pc board ass'y <D>
	1A274594-1A	NARF-4194-1A,Tuner circuit pc board ass'y <P/Q>
	1A274594-1B	NARF-4194-1B,Tuner circuit pc board ass'y <W>
U10	1A274595-1	NAPS-4195-1,Power supply circuit pc board ass'y <D>
	1A274595-1A	NAPS-4195-1A,Power supply circuit pc board ass'y <P>
	1A274595-1B	NAPS-4195-1B,Power supply circuit pc board ass'y <W>
	1A274595-1C	NAPS-4195-1C,Power supply circuit pc board ass'y <Q>
U11	1A274596-1	NAAF-4196-1,Video and rear amplifier pc board ass'y <D>
	1A274596-1A	NAAF-4196-1A,Video and rear amplifier pc board ass'y <P/W/Q>
U12	1A274599-1	NAETC-4199-1,Rear preout pc board ass'y
U14	1A274561-1	NAETC-4261-1,Terminal pc board ass'y

NOTE:<D>:Only 120V model
<P>:Only 230V model
<W>:Only Worldwide model
<Q>:Only 240V model

NOTE:
THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

EXPLODED VIEW

MODEL TX-904



PARTS LIST

REF. NO.	PART NO.		DESCRIPTION
A1	27100239A		Chassis
A2	27121448		Back panel <D>
	27121449		Back panel <P>
	27121451		Back panel <W>
	27121452		Back panel <Q>
A3	27160287		Radiator
A4	27141474		Bracket SH
A5	27130653		Bracket H
A6	27141498		Bracket S
A7	27300750	⚠	Bushing
A8	27190657		KGLS-18RT,Holder
A9	27190062		KGLS-12S,Holder
A10	801433		Sems tapping screw
A11	834430088		3TTS+8B(BC),Self-tapping screw
A12	833430080		3TTP+8B(BC),Self-tapping screw
A13	833430108		3TTS+10B(BC),Self-tapping screw
A14	830440089		4TTC+8C(BC),Self-tapping screw
A15	831130088		3TTW+8B,Self-tapping screw
A16	82143015		3P+15FN(BC),Pan head screw
A17	82143006		3P+6FN(BC),Pan head screw
A18	27110639B		Front bracket ass'y
A19	28184476A		Top cover
A20	834430088		3TTS+8B(BC),Self-tapping screw
A21	28141132		Cushion
A22	28140024		Cushion
A23	27170280A		Bottom panel
A24	834430088		3TTS+8B(BC),Self-tapping screw
A25	27190657		KGLS-18RT,Holder
A26	1A276121		Front panel ass'y
A27	28125234A		End cap L
A28	28125235A		End cap R
A29	833430080		3TTP+8B(BC),Self-tapping screw
A30	28191596		Clear plate
A31	28133262Y		Back plate
A32	28324372		Knob VOLUME
A33	28324376A		Knob TONE
A35	27175251 or 27175251-1		Leg
A36	28140020		Cushion
A41	27270212		Spacer <P/W/Q>
A90	29360626-1		Fuse label
F901	252051	!	6A ST-6,Primary fuse <D/W>
F902	252076	!	3.15A-SE-EAK,Primary fuse <P/W/Q>

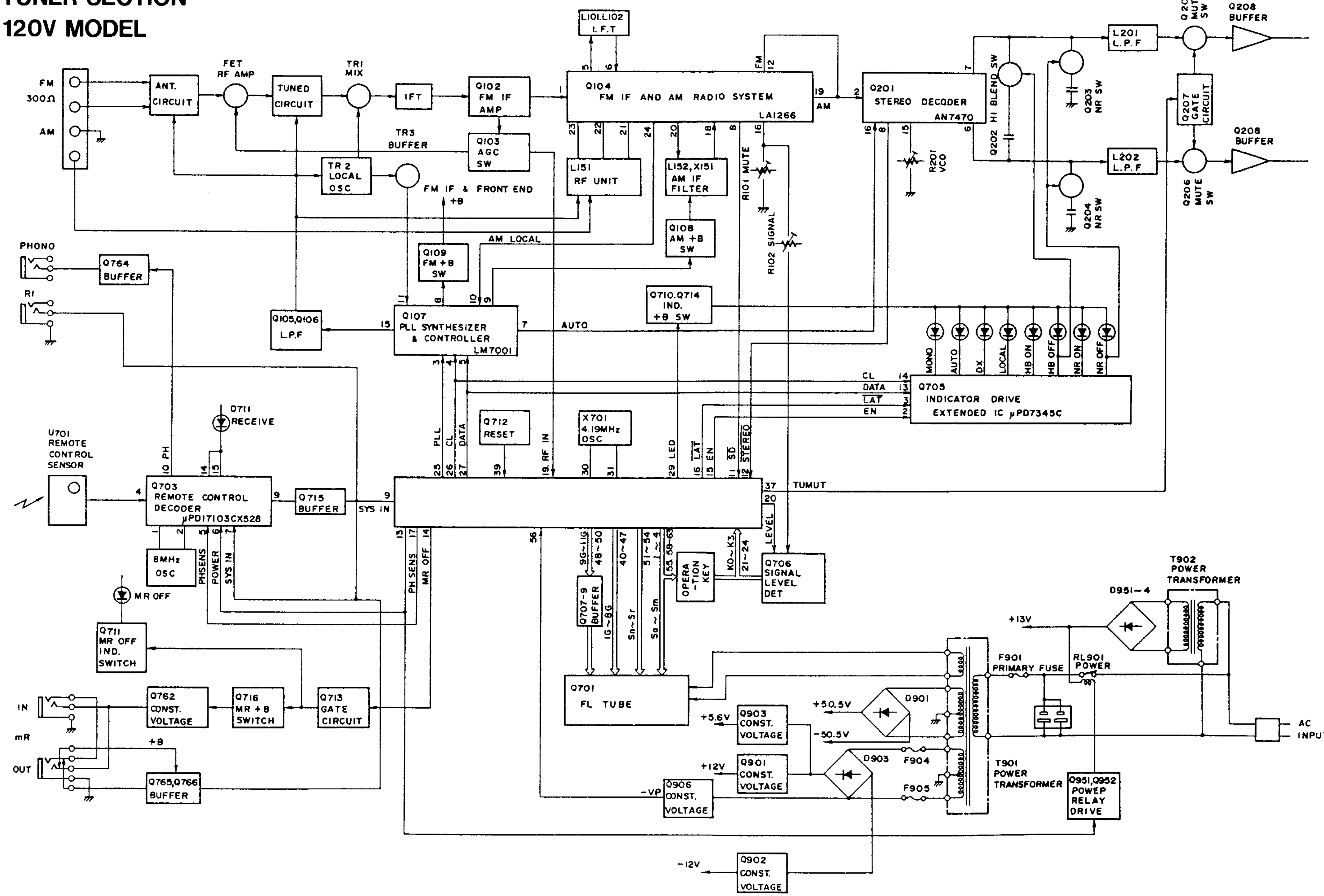
REF.NO.	PART NO.		DESCRIPTION
F903	252075	⚠	2.5A-SE-EAK,AC outlet fuse <P>
F904,F905	252051	⚠	6A ST-6,Secondary fuse <D>
	252078	⚠	5A-SE-EAK,Secondary fuse <P/W/Q>
JL701	2041302010		NCFC1-302010,Flat cable
P304	25060044		Terminal GND
P901	253123, 253146 or 253161	⚠	AS-UC-6 #18, Power supply cord <D>
	253148	⚠	AS-CEE,Power supply cord <P/W>
	253118	⚠	AS-SAA,Power supply cord <Q>
P902,P903	25050346	⚠	NSCT-2P173,AC outlet <Q>
Q505,Q506	2202523, 2202524, 2202526, 2202292 or 2202293		2SC4468-O, 2SC4468-Y , 2SC4468-P, 2SC3182N-R or 2SC3182N-O,Power transistors
Q507,Q508	2202513, 2202514, 2202516, 2202282 or 2202283		2SA1695-O, 2SA1695-Y, 2SA1695-P, 2SA1265N-R or 2SA1265N-O,Power transistors
T901	2300674	⚠	NPT-1110D,Power transformer <D>
	2300675	⚠	NPT-1110P,Power transformer <P>
	2300676	⚠	NPT-1110DG,Power transformer <W>
	2300677	⚠	NPT-1110Q,Power transformer <Q>
U1	1A276587-2		NAAF-4187-2,Selector and power amplifier pc board ass'y <D>
	1A276587-2A		NAAF-4187-2A,Selector and power amplifier pc board ass'y <P/W/Q>
U2	1A276588-2		NAETC-4188-2,Headphone terminal pc board ass'y
U4	1A276589-2		NADIS-4189-2,Display circuit pc board ass'y <D>
	1A276589-2A		NADIS-4189-2A,Display circuit pc board ass'y <P/Q>
	1A276589-2B		NADIS-4189-2B,Display circuit pc board ass'y <W>
U5	1A276590-2		NAAF-4190-2,Volume circuit pc board ass'y
U6	1A276591-2		NADG-4191-2,RI/MR terminal pc board ass'y <D>
	1A276591-2A		NADG-4191-2A,RI/MR terminal pc board ass'y <P/W/Q>

REF.NO.	PART NO.	DESCRIPTION
U7	1A276592-2	NASW-4192-2,Operation switch pc board ass'y
U9	1A276594-2	NARF-4194-2,Tuner circuit pc board ass'y <D>
	1A276594-2A	NARF-4194-2A,Tuner circuit pc board ass'y <P/Q>
	1A276594-2B	NARF-4194-2B,Tuner circuit pc board ass'y <W>
U10	1A276595-2	NAPS-4195-2,Power supply circuit pc board ass'y <D>
	1A276595-2A	NAPS-4195-2A,Power supply circuit pc board ass'y <P>
	1A276595-2B	NAPS-4195-2B,Power supply circuit pc board ass'y <W>
	1A276595-2C	NAPS-4195-2C,Power supply circuit pc board ass'y <Q>
U11	1A276596-2	NAAF-4196-2,Video and sub amplifier pc board ass'y <D>
	1A276596-2A	NAAF-4196-2A,Video and sub amplifier pc board ass'y <P/W/Q>

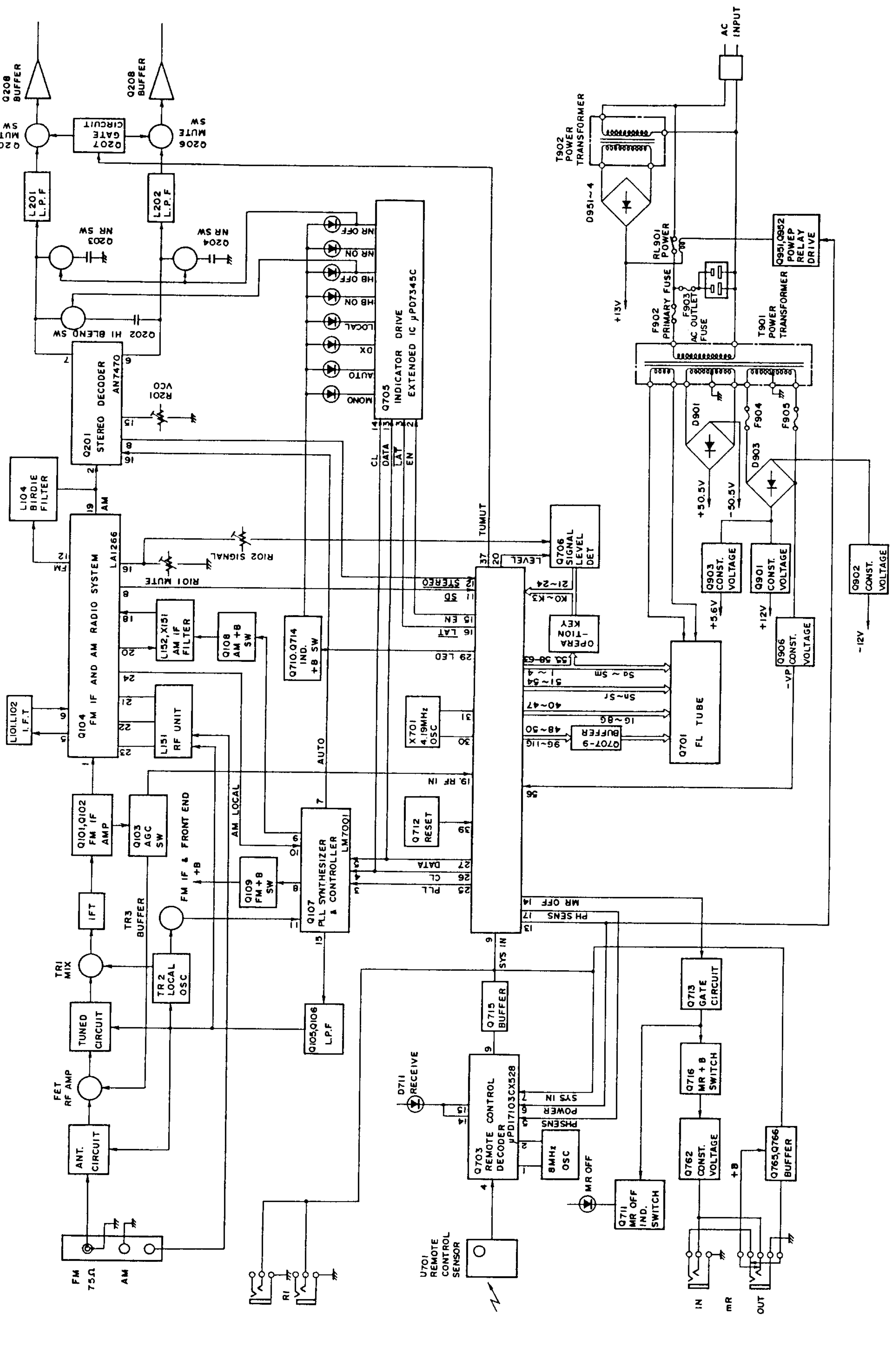
NOTE:<D>:Only 120V model
<P>:Only 230V model
<W>:Only Worldwide model
<Q>:Only 240V model

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

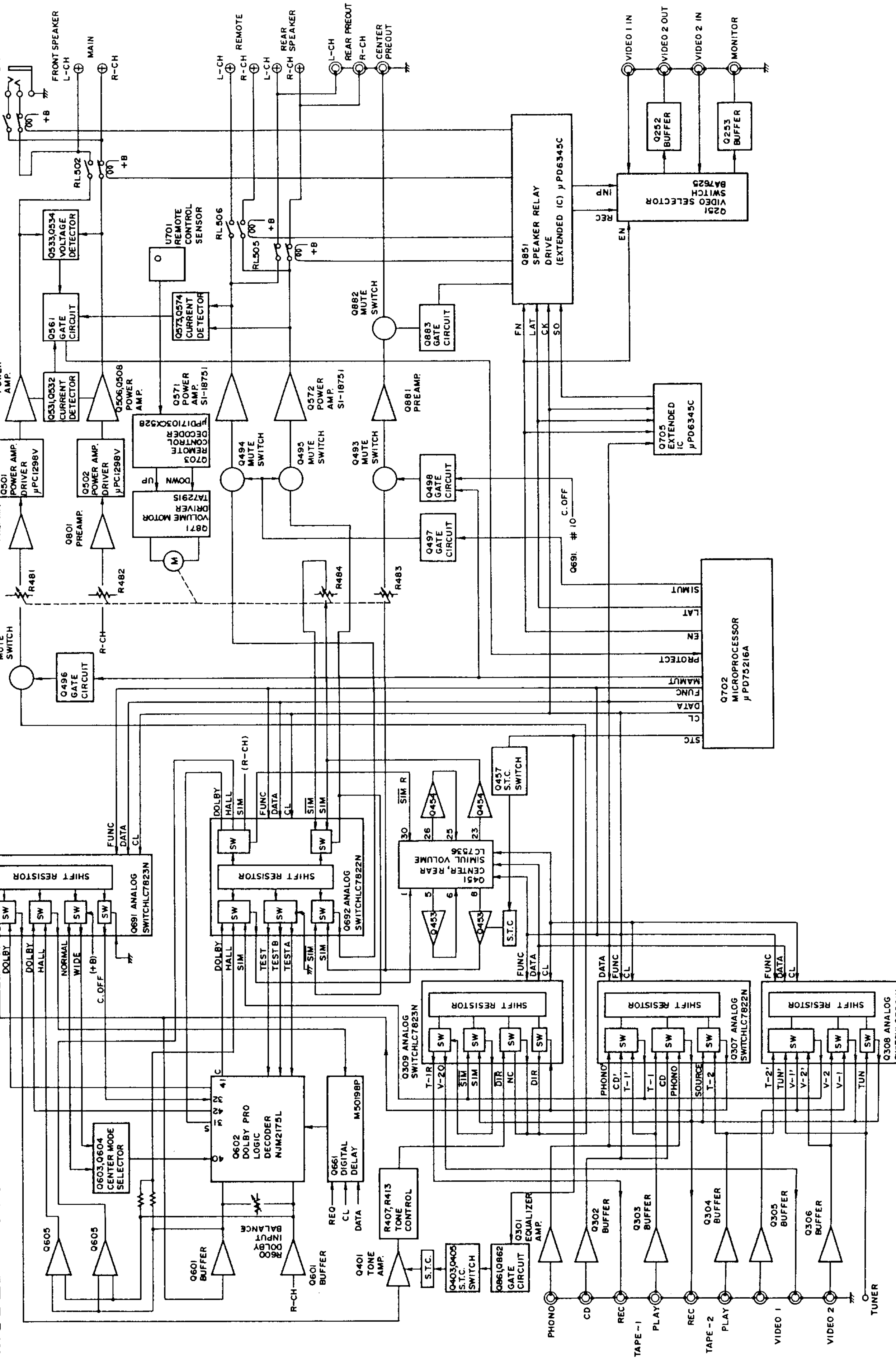
BLOCK DIAGRAM
TUNER SECTION
120V MODEL



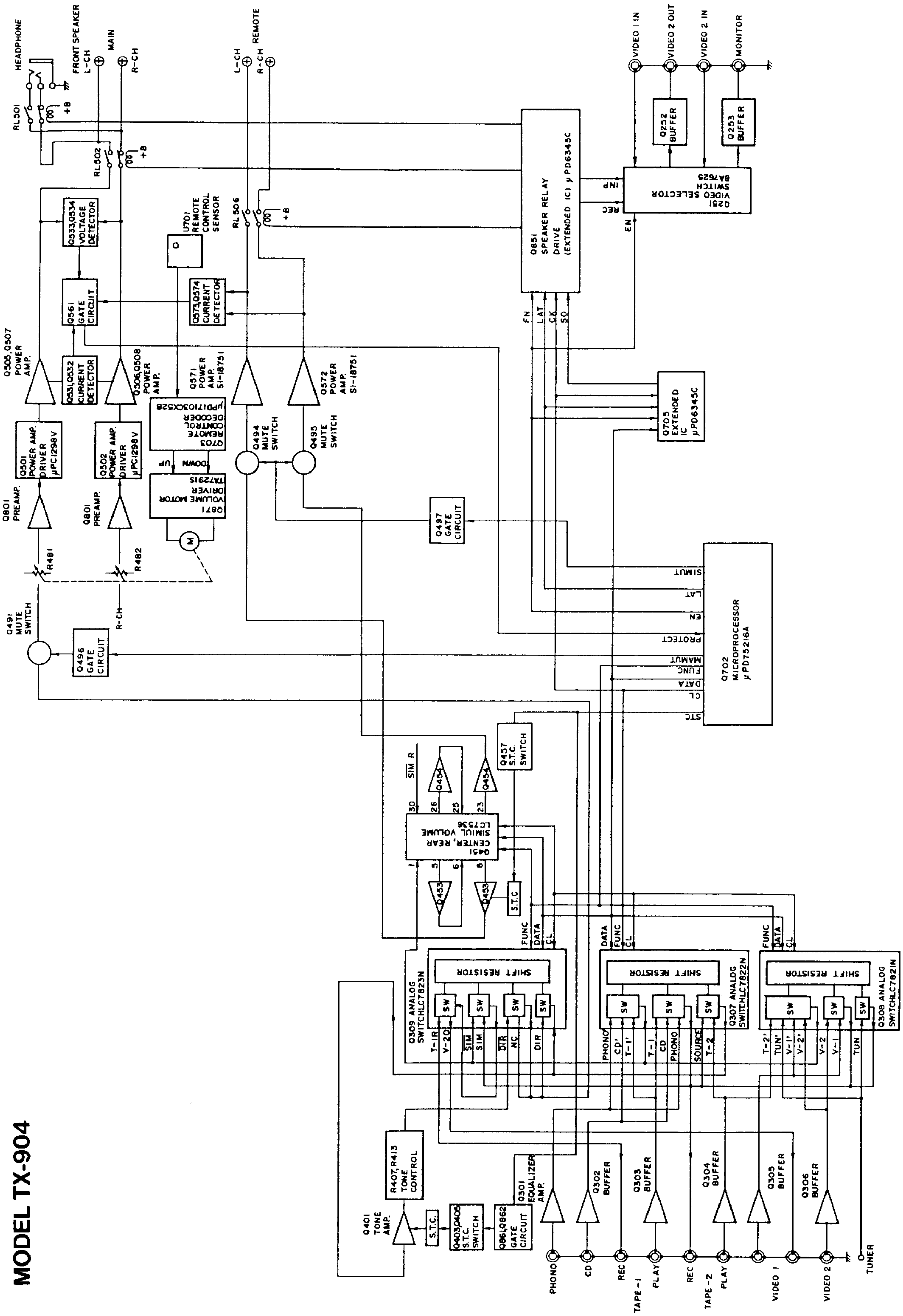
TUNER SECTION OTHER MODELS



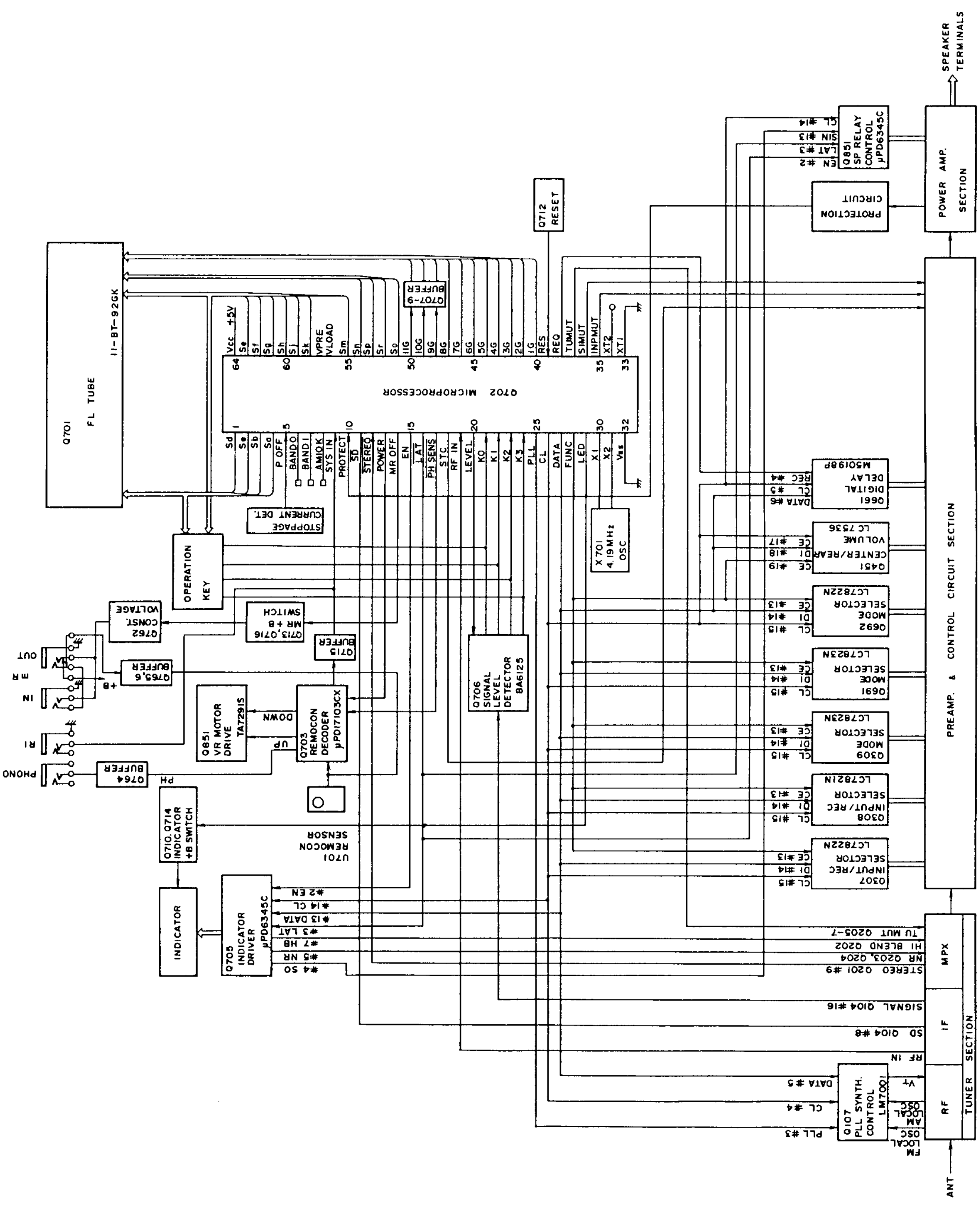
BLOCK DIAGRAM
AMPLIFIER SECTION
MODEL TX-906



MODEL TX-904


HEADPHONE
FRONT SPEAKER
MAIN
L-CH
R-CH
REMOTE
RL501
RL502
RL506
+B
VIDEO 1 IN
VIDEO 2 OUT
VIDEO 2 IN
MONITOR
Q252 BUFFER
Q253 BUFFER
Q251 VIDEO SELECTOR SWITCH BA7625
REC
INP
EN
Q851 SPEAKER RELAY DRIVE (EXTENDED IC) μPD6345C
FN
LAT
CK
SO
Q533,Q534 VOLTAGE DETECTOR
U701 REMOTE CONTROL SENSOR
Q561 GATE CIRCUIT
Q573,Q574 CURRENT DETECTOR
Q505,Q507 POWER AMP.
Q531,Q532 CURRENT DETECTOR
Q506,Q508 POWER AMP.
Q571 POWER AMP. SI-1875I
Q572 POWER AMP. SI-1875I
Q705 EXTENDED IC μPD6345C
Q501 POWER AMP. DRIVER μPC1298V
Q502 POWER AMP. DRIVER μPC1298V
Q703 REMOTE CONTROL DECODER μPD1703CX528
UP
DOWN
Q494 MUTE SWITCH
Q495 MUTE SWITCH
Q801 PREAMP.
Q871 VOLUME MOTOR DRIVER TA7291S
M
Q497 GATE CIRCUIT
R481
R482
Q491 MUTE SWITCH
Q496 GATE CIRCUIT
Q702 MICROPROCESSOR μPD75216A
SIMUT
LAT
EN
PROTECT
MAMUT
FUNC
DATA
CL
STC
Q457 S.T.C. SWITCH
Q451 CENTER, REAR SIMUL VOLUME LC7536
Q453
Q454
SIM R
S.T.C.
Q309 ANALOG SWITCH LC7823N
Q307 ANALOG SWITCH LC7822N
Q308 ANALOG SWITCH LC7821N
SHIFT RESISTOR
SW
T-1R
V-2O
SIM
DTR
NC
DIR
PHONO
CD'
T-1'
T-1
CD
SOURCE
T-2
T-2'
TUN'
V-1'
V-2'
V-2
V-1
TUN
R407,R413 TONE CONTROL
Q401 TONE AMP.
Q403,Q405 S.T.C. SWITCH
Q861,Q862 GATE CIRCUIT
Q301 EQUALIZER AMP.
Q302 BUFFER
Q303 BUFFER
Q304 BUFFER
Q305 BUFFER
Q306 BUFFER
CD
REC
PLAY
TAPE-1
TAPE-2
VIDEO 1
VIDEO 2
TUNER

MICROPROCESSOR DESCRIPTIONS



Terminal Description

Pin No.	Symbol	Description
1	Sd	Segment and key scan output terminals. "H" when active.
2	Sc	
3	Sb	
4	Sa	
5	POFF	This is the input terminal for detection of the stoppage of electric current."L" when the stoppage of electric current.
6	BAND0	Initializing input terminal for region setting of FM band.
7	BAND1	
8	AM 10K	Initializing input terminal for region setting of AM band.
9	SYS IN	System code input terminal."H" when active.
10	PROTECT	Protection circuit operation detection input terminal. "H" when active.
11	SD	Broadcast detection input terminal."L" when active. Control the stop of auto tuning and output TU MUT(#37).
12	STEREO	Stereo broadcast detection input terminal. "L" when stereo broadcast.
13	POWER	Power control output terminal."H" when the power turns on.
14	MR	MR control output terminal. "H" when MR turns on.
15	EN	Connect the terminal EN of the extended IC μ PD6345C.(Q705,Q851)
16	LAT	Connect the terminal LAT of the extended IC μ PD6345C.
17	PHONO	Phono control output terminal.
18	S.TONE	SELECTIVE TONE control output terminal. "H" when this switch turns on.
19	RF IN	RF mode input terminal. RF IN: L = LOCAL, H = DX (RF MODE) Control the terminals LOCAL and DX of the extended IC.
20	LEVEL	Signal level input control output terminal.The signal level is inputed to terminals K0-K3 when this terminal is the high level.
21	K0	Key scan input terminals when pin 20 is low."H" when active. Signal level input terminal when pin 20 is high.
22	K1	
23	K2	
24	K3	
25	PLL	Connect to the terminal CE of PLL IC (LM7001 Q107).
26	CL	Connect to the terminal CL of PLL IC,terminal CL of analogue switches(Q307,308, Q309,Q601,Q692),terminal SECK of digital delay (Q661) and terminal CLK of electro volume. (Q451)
27	DATA	Connect to the terminal DATA of PLL IC,terminal DI of analogue switches,terminal SEDATA of digital delay,terminal SIN of extended IC and terminal CLK of electro volume. (Q451)

Pin 19 RF IN:

RF IN	RF MODE
L	LOCAL
H	DX

Pins 21–24:

Key input of L	Signal level
none	LEVEL0
K0	LEVEL1
K0,K1	LEVEL2
K0,K1,K2	LEVEL3
K0,K1,K2,K3	LEVEL4

FM band setting

BAND1	BAND0	REGION	FREQUENCY RANGE	CH. SPACE
0	0	U.S.A.	87.5-108.0MHz	50kHz
0	1	Europe	87.50-108.00MHz	50kHz
1	0	Saudi Arabia	87.50-108.00MHz	50kHz
1	1	Japan	76.0-90.0MHz	100kHz

AM band setting

AM10K	REGION	FREQUENCY RANGE	CH. SPACE
1	U.S.A.	530-1710kHz	10kHz
0	Saudi Arabia	531-1602kHz	9kHz
0	Europe	522-1611kHz	9kHz

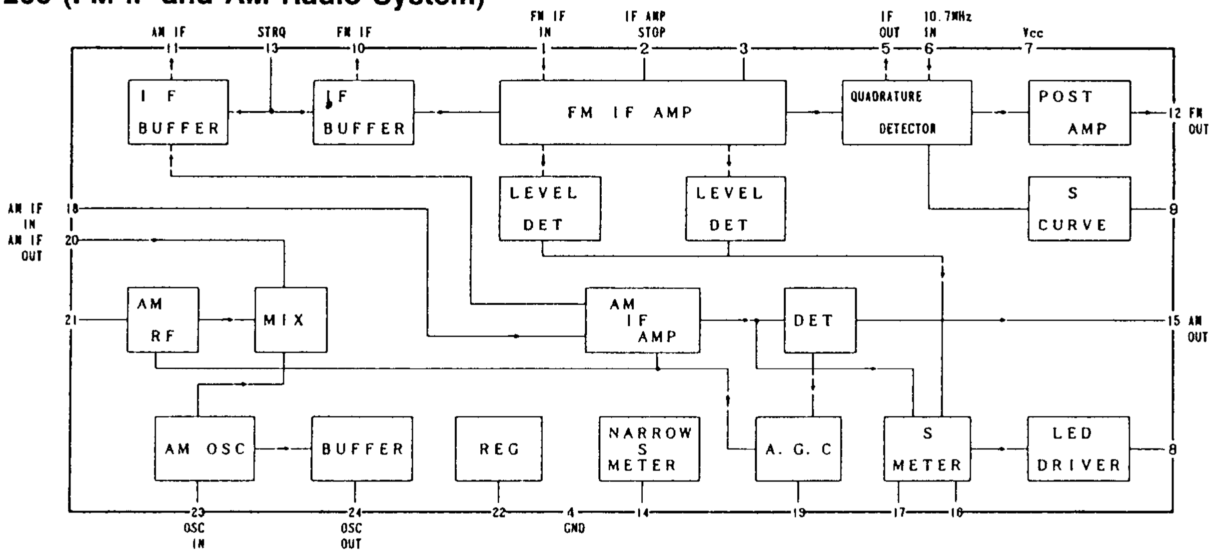
Pin No.	Symbol	Description
28	CE	Connect to the terminal CE of analogue switches and terminal CE of electro volume.
29	LED	LED indicator control output terminal.
30	X1	Ceramic oscillator connection terminal for main system clock.
31	X2	Connect to the 4.19MHz ceramic oscillator.
32	VSS	Ground terminal.
33	XT1	Ceramic oscillator connection terminal for sub system clock.
34	XT2	Not used.
35	INP MUT	Audio muting output terminal when input selector change over.
36	SIM MUT	SIM muting output terminal when input selector change over.
37	TU MUT	Tuner muting output terminal."H" when active.
38	REQ/MODE	Connect to the terminal REQ of digital delay.
39	RESET	Reset input terminal."L"when active.
40	D1	Digit output terminals."H" when active.
41	D2	
42	D3	
43	D4	
44	D5	
45	D6	
46	D7	
47	D8	
48	D9	
49	D10	
50	D11	
51	So	Segment output terminals."H" when active.
52	Sr	
53	Sp	
54	Sn	
55	Sm	
56	VLOAD	Pull-down resistor connection terminal of FIP controller/driver.
57	VPRE	Power supply terminal of output buffer of FIP controller/driver.
58	Sk	Segment and key scan output terminals. "H" when active.
59	Sj	
60	Sh	
61	Sg	
62	Sf	
63	Se	
64	VDD	Power supply terminal.(+5V)

Key Matrix

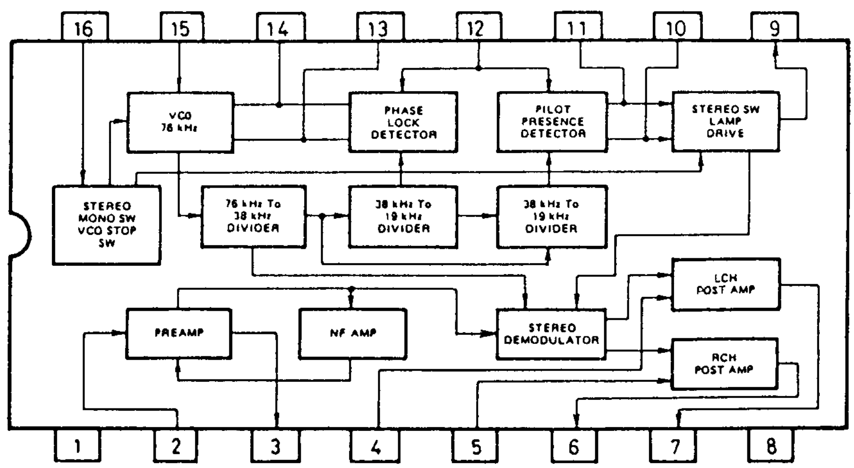
	No.	24	23	22	21
No.		K3	K2	K1	K0
4	Sa	SLEEP	SPEAKER REMOTE	SPEAKER MAIN	POWER
3	Sb	DELAY TIME	SURROUND MODE	CENTER MODE	MR
2	Sc	TAPE-2	TAPE-1	VIDEO-2	VIDEO-1
1	Sd	CD	PHONO	AM	FM
63	Se		S.DIRECT	SIM	REC OUT
62	Sf	4	3	2	1
61	Sg	8	7	6	5
60	Sh	CLASS SCAN	D.TUNING	0	9
59	Sj	UP	DOWN	MEMORY	MUTE/MODE
58	Sk	CLASS-D	CLASS-C	CLASS-B	CLASS-A
55	Sm	CENTER OFF	SELECTIVE TONE	CLASS-F	CLASS-E

IC BLOCK DIAGRAMS AND DESCRIPTIONS

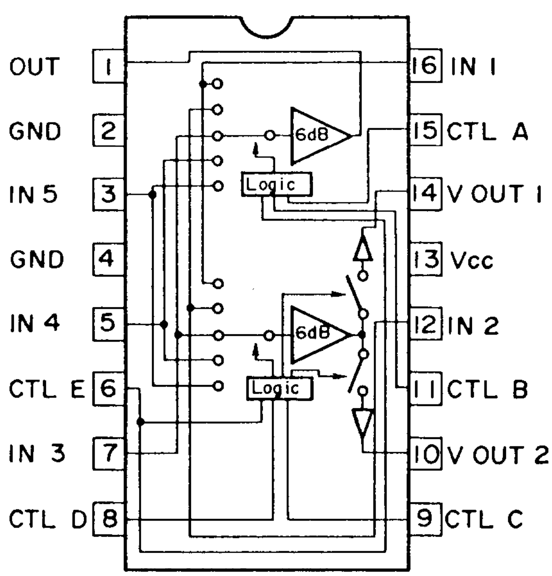
Q104
LA1266 (FM IF and AM Radio System)



Q201
AN7470 (FM Stereo Decoder)



Q251
BA7625 (Video Selector Switch)



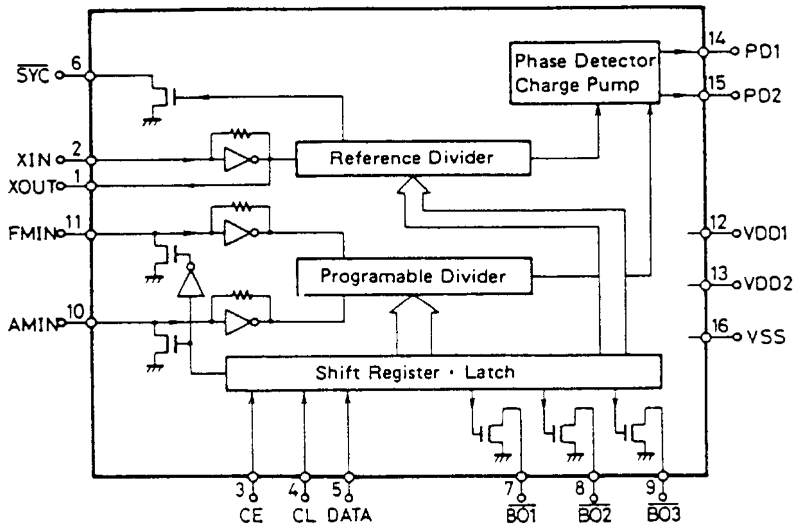
#15	#11	#6	#1
A	B	E	MONITOR OUT
L	L	X	IN1
H	L	X	IN2
L	H	X	IN3
H	H	L	IN4
H	H	H	IN5

#9	#8	#6	#14
C	D	E	VOUT 1
L	L	X	
H	L	X	IN2
L	H	X	IN3
H	H	L	IN4
H	H	H	IN5

X:Don't care

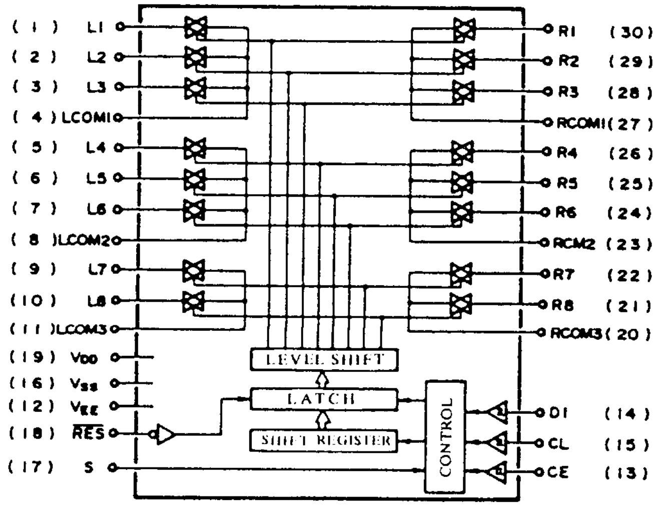
#15	#11	#6	#10
A	B	E	VOUT 2
L	L	X	IN1
H	L	X	
L	H	X	IN3
H	H	L	IN4
H	H	H	IN5

Q107
LM7001 (PLL Synthesizer and Controller)



Pin No.	Terminal	Description
1	XOUT	Connect to the 7.2 MHz crystal oscillator.
2	XIN	
3	CE	Chip enable terminal. Connect to the PLL terminal of microprocessor.
4	CL	Serial clock input terminal. Connect to the CLOCK terminal of microprocessor.
5	DATA	Serial data input terminal. Connect to the DATA terminal of microprocessor.
6	$\overline{\text{SYN}}$	Not used.
7	$\overline{\text{AUTO}}$/MONO	AUTO/MONO selection output terminal. "L" when AUTO.
8	$\overline{\text{FM}}$	FM band control output terminal. "L" when FM.
9	$\overline{\text{AM}}$	AM band control output terminal. "L" when AM.
10	AMIN	AM local oscillator input terminal.
11	FMIN	FM local oscillator terminal.
12	VDD 1	Power supply terminal for back-up.
13	VDD 2	Power supply terminal.
14	PD1	Charge pump output of the phase detector which constitutes the PLL. High level is output when the divided local oscillator frequency is high than the reference frequency. In the opposite case, low level is output. Floating occurs when the frequencies matched. The output is applied to the variable capacitor diode in the local oscillator through the low pass filters.
15	PD2	
16	Vss	Ground terminal.

Q307, Q692
LC7822N (Analogue switch)



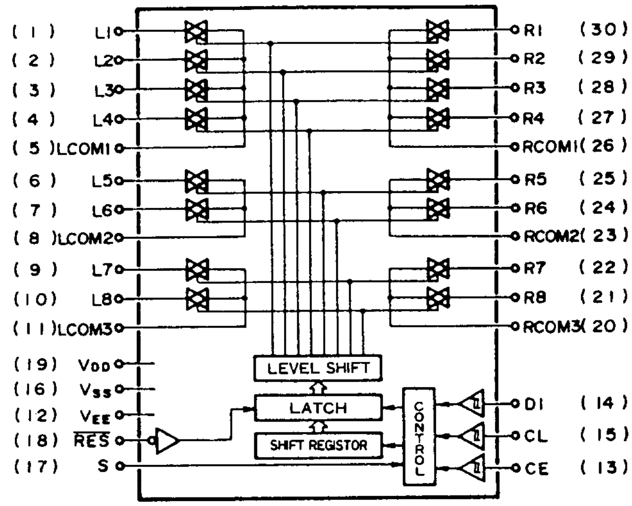
Q307

Pin No.	Terminal	Description	Pin No.	Terminal	Description
1	PHONO'		16	Vss	Ground terminal.
2	CD'		17	S	Selector terminal
3	TAPE-1		18	RES	Reset terminal.When power is turned
4	L COM 1	Input/output terminals of audio signal			on,the condition of the analog switch
5	TAPE-1	of left channel.			is not detrmined,but when this
6	CD	Control to the inside analogue switch			terminal iS "L",all analog switches
7	PHONO	at the serial data.			are off.
8	L COM 2		19	VDD	Power supply terminal.(+15V)
9	SOURCE		20	R COM 3	
10	TAPE-2		21	TAPE-2	
11	L COM 3		22	SOURCE	
12	Vss	Negative power supply terminal.	23	R COM 2	Input/output terminals of audio signal
		(-15V)	24	PHONO	of right channel.
13	CE	Chip enable terminal.Connect the terminal	25	CD	Control to the inside analogue switch
		SEL of microprocessor.	26	TAPE-1	at the serial data.
14	DI	Serial data input terminal.Connect the	27	R COM 1	
		terminal DATA of microprocessor.	28	TAPE-1'	
15	CL	Serial clock input terminal.Connect the	29	CD'	
		terminal CLOCK of microprocessor.	30	PHONO'	

Q692

Pin No.	Terminal	Description	Pin No.	Terminal	Description
1	DOLBY	Input/output terminals of audio signal	16	Vss	Ground terminal.
2	HALL	of right channel when surround mode.	17	S	Selector terminal
3	SIM	Control the inside analogue switch	18	RES	Reset terminal.When power is turned
4	L COM 1	at the serial data.			on,the condition of the analog switch
5	TEST	Not used.			is not detrmined,but when this
6	TEST B				terminal iS "L",all analog switches
7	TEST A				are off.
8	L COM 2		19	VDD	Power supply terminal.(+15V)
9	SIM	Input/output terminals of audio signal	20	R COM 3	Input/output terminals of audio signal
10	SIM	of centert channel when mode SIM.	21	SIM	of right channel when mode SIM.
11	L COM 3		22	SIM	
12	Vss	Negative power supply terminal.	23	R COM 2	Dolby pro logic control signal.
		(-15V)	24	TEST A	Control the inside analogue switch
13	CE	Chip enable terminal.Connect the terminal	25	TEST B	at the serial data.
		SEL of microprocessor.	26	TEST	
14	DI	Serial data input terminal.Connect the	27	R COM 1	Input/output terminals of audio signal
		terminal DATA of microprocessor.	28	SIM	of left channel when surround mode.
15	CL	Serial clock input terminal.Connect the	29	HALL	Control to the inside analogue switch
		terminal CLOCK of microprocessor.	30	DOLBY	at the serial data.

Q308
LC7821N (Analogue switch)



Q308

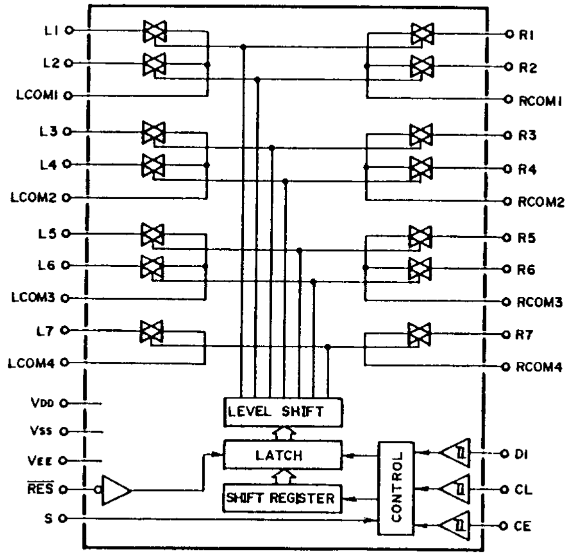
Pin No.	Terminal	Description
1	TAPE-2'	Input/output terminals of audio signal of right channel. Control to the inside analogue switch at the serial data.
2	TUNER'	
3	VIDEO-1'	
4	VIDEO-2'	
5	L COM 1	
6	VIDEO-2	
7	VIDEO-1	
8	L COM 2	
9	TUNER	
10	OFF	
11	L COM 3	
12	Vss	Negative power supply terminal. (-15V)
13	CE	Chip enable terminal.Connect the terminal SEL of microprocessor.
14	DI	Serial data input terminal.Connect the terminal DATA of microprocessor.
15	CL	Serial clock input terminal.Connect the terminal CLOCK of microprocessor.

Pin No.	Terminal	Description
16	Vss	Ground terminal.
17	S	Selector terminal
18	RES	Reset terminal.When power is turned on,the condition of the analog switch is not detrmined,but when this terminal iS "L",all analog switches are off.
19	VDD	Power supply terminal.(+15V)
20	L COM 3	Input/output terminals of audio signal of left channel. Control to the inside analogue switch at the serial data.
21	OFF	
22	TUNER	
23	L COM 2	
24	VIDEO-1	
25	VIDEO-2	
26	L COM 1	
27	VIDEO-2'	
28	VIDEO-1'	
29	TUNER'	
30	TAPE-2'	

Serial Data Composition

	A0	A1	A2	A3	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	
	Address				Switch change over								
Q306	0	1	0	1	TAPE-2'	TUNER'	VIDEO-1'	VIDEO-2'	VIDEO-2	VIDEO-1	TUNER		
Q307	0	0	1	1	PHONO'	CD'	TAPE-1'	TAPE-1	CD	PHONO	SOURCE	TAPE-2	
Q309	0	1	1	1	TAPE-1	VIDEO-2	SIM	SIM	DIRECT		DIRECT		
Q691	1	1	1	1	DOLBY	DOLBY	DOLBY	HALL	NORMAL	WIDE	CENTER OFF		TX-906
Q692	1	0	1	1	DOLBY	HALL	SIM	TEST	TESTA	TESTB	SIM	SIM	TX-906

Q309, Q691
LC7823N (Analogue switch)



Q309

Pin No.	Terminal	Description
1	TAPE-1 REC	Recording output terminals.Control the analogue switch at the serial data.
2	VIDEO-2 OUT	
3	L COM 1	
4	SIM	Input/output terminals of audio signal of left channel when surround mode. Control the inside analogue switch at the serial data.
5	SIM	
6	L COM 2	
7	DIRECT	
8	NC	
9	L COM 3	
10	DIRECT	
11	L COM 4	
12	Vss	Negative power supply terminal. (-15V)
13	CE	Chip enable terminal.Connect the terminal SEL of microprocessor.
14	DI	Serial data input terminal.Connect the terminal DATA of microprocessor.
15	CL	Serial clock input terminal.Connect the terminal CLOCK of microprocessor.

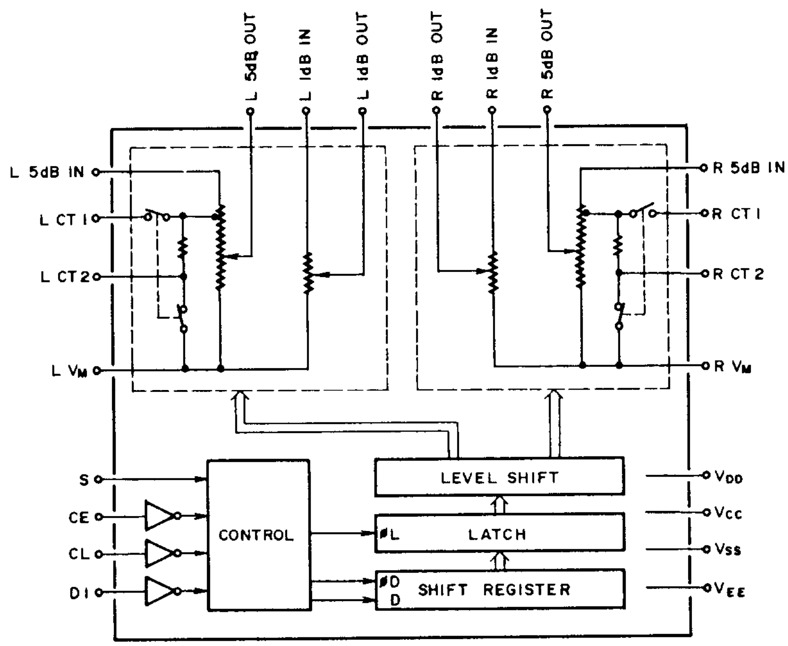
Pin No.	Terminal	Description
16	Vss	Ground terminal.
17	S	Selector terminal
18	RES	Reset terminal.When power is turned on,the condition of the analog switch is not detrmined,but when this terminal iS "L",all analog switches are off.
19	VDD	Power supply terminal.(+15V)
20	R COM 4	Input/output terminals of audio signal of right channel when surround mode. Control to the inside analogue switch at the serial data.
21	RIRECT	
22	R COM 3	
23	NC	
24	DIRECT	
25	R COM 2	
26	SIM	
27	SIM	
28	R COM 1	Recording output terminals.Control the analogue switch at the serial data.
29	VIDEO-2 OUT	
30	TAPE-1 REC	

Q691

Pin No.	Terminal	Description
1	DOLBY	Input/output terminals of audio signal of left channel when surround mode. Control the inside analogue switch at the serial data.
2	DOLBY	
3	L COM 1	
4	DOLBY	
5	HALL	
6	L COM 2	
7	NORMAL	
8	WIDE	
9	L COM 3	
10	C. OFF	
11	L COM 4	
12	Vss	Negative power supply terminal. (-15V)
13	CE	Chip enable terminal.Connect the terminal SEL of microprocessor.
14	DI	Serial data input terminal.Connect the terminal DATA of microprocessor.
15	CL	Serial clock input terminal.Connect the terminal CLOCK of microprocessor.

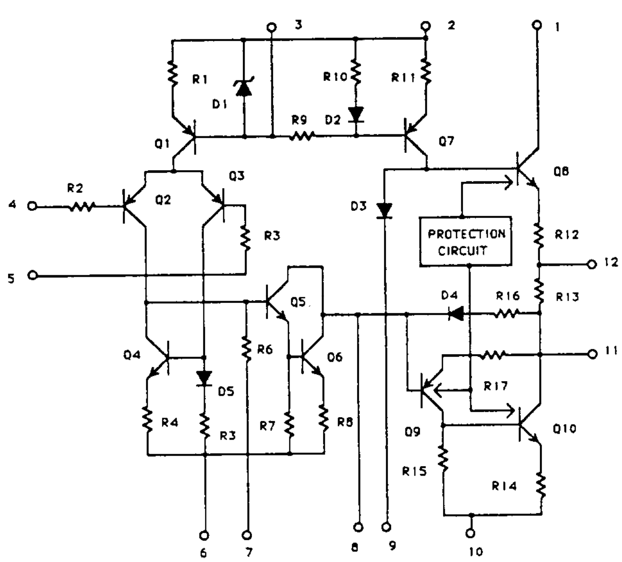
Pin No.	Terminal	Description
16	Vss	Ground terminal.
17	S	Selector terminal
18	RES	Reset terminal.When power is turned on,the condition of the analog switch is not detrmined,but when this terminal iS "L",all analog switches are off.
19	VDD	Power supply terminal.(+15V)
20	R COM 4	Input/output terminals of audio signal of right channel when surround mode. Control to the inside analogue switch at the serial data.
21	C. OFF	
22	R COM 3	
23	WIDE	
24	NORMAL	
25	R COM 2	
26	HALL	
27	DOLBY	
28	R COM 1	
29	DOLBY	
30	DOLBY	

Q451
LC7536 (Electro Volume)

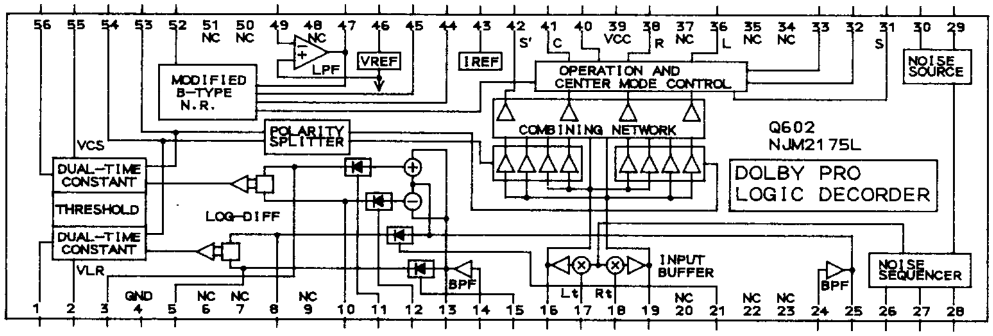


No.	TERMINAL	DESCRIPTION	No.	TERMINAL	DESCRIPTION
1	L 5dB IN	5dB step attenuator input terminal	17	CL	Serial data input terminal
3	L CT1	Terminal for loudness	18	DI	Serial data input terminal
4	L CT2	Terminal for loudness	19	CE	Serial data input terminal
5	L 5dB OUT	5dB step attenuator output terminal	21	VCC	Power supply terminal
6	L 1dB IN	1dB step attenuator input terminal	22	R VM	Common terminal of volume
8	L 1dB OUT	1dB step attenuator output terminal	23	R 1dB OUT	1dB step attenuator output terminal
9	L VM	Common terminal of volume	25	R 1dB IN	1dB step attenuator input terminal
10	VEE	Power supply terminal	26	R 5dB OUT	5dB step attenuator output terminal
12	S	Select terminal of address code during data format	27	R CT2	Terminal for loudness
13	VDD	Power supply terminal	28	R CT1	Terminal for loudness
14	VSS	Power supply terminal	30	R 5dB IN	5dB step attenuator input terminal

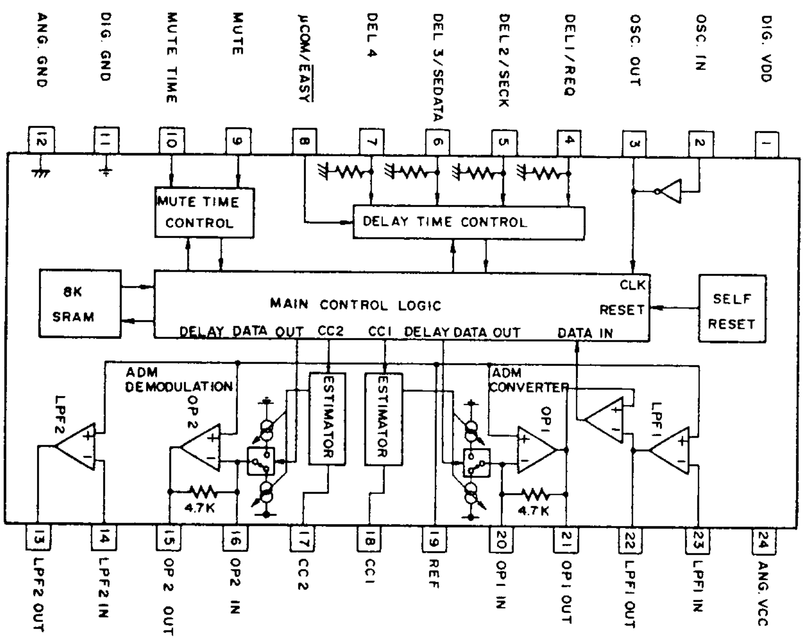
Q501, Q502
μPC1298V (Power Amplifier Driver)



Q602
NJM2175L (Dolby Pro Logic Decoder)

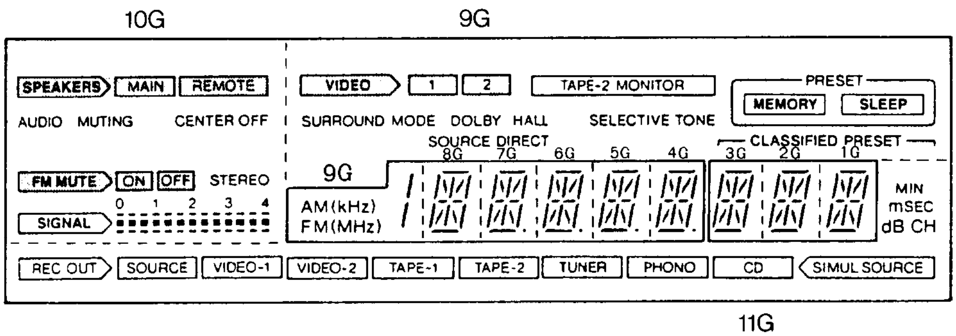


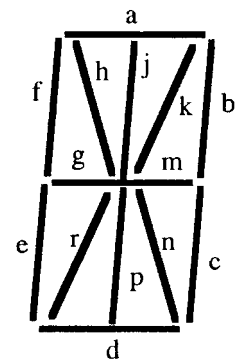
Q661
M50198P (Digital Delay)



Pin no.	Symbol	Function
1	DIG GND	Power supply terminal of digital section
2	OSC. IN	Connect the 3.27MHz ceramic oscillator or external clock.
3	OSC. OUT	
4	DEL1/REQ	Terminal DEL1 when the easy mode.Terminal REQ when the microprocessor.
5	DEL2/SECK	Terminal DEL2 when the easy mode.Terminal SECK when the microprocessor.
6	DEL3/SEDATA	Terminal DEL3 when the easy mode.Terminal SEDATA when the microprocessor.
7	DEL4	80μsec. mode control terminal.
8	COM/EASY	Microprocessor or easy mode changeover terminal
9	MUTE	Manual muting control terminal.
10	MUTE TIME	Auto muting time changeover terminal.
11	DIG.GND	Digital ground
12	ANG.GND	Analog ground
13	LPF2 OUT	Connect the secondary low pass filter between pins 13 & 14.
14	LPF2 IN	
15	OP2 OUT	Operation amplifier output terminal
16	OP2 IN	Operation amplifier input terminal
17	CC2	Current control
18	CC1	Current control
19	REF	Reference voltage.(2.5V)
20	OP1 IN	Operation amplifier input terminal
21	OP1 OUT	Operation amplifier outout terminal
22	LPF1 OUT	Connect the low pass filter between pins 22 and 23.
23	LPF1 IN	
24	ANG.VCC	Power supply terminal of analog section.

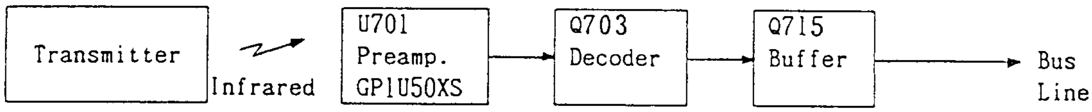
Q701
11-BT-92GK (Fluorescent Indicator Tube)

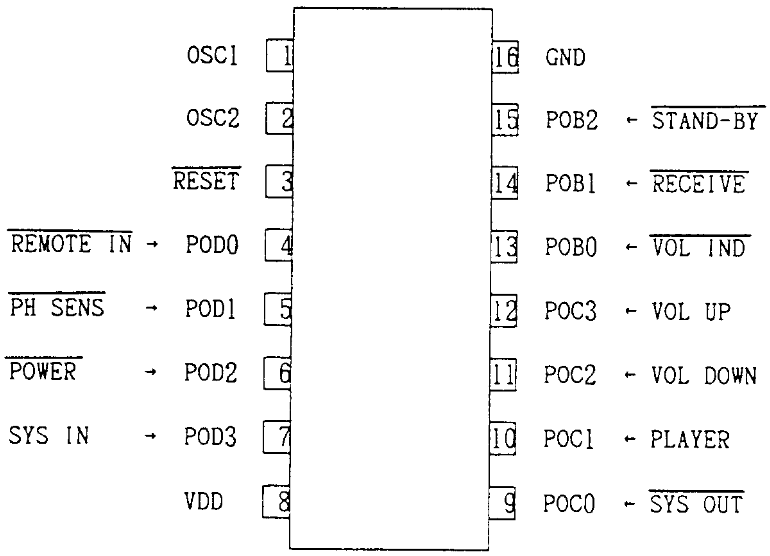




	D11	D10	D9	D8	D7	D6	D5	D4	D3	D2	D1
Sa	MIN	SPEAKERS	VIDEO/PRESET	a	a	a	a	a	a	a	a
Sb	mSEC	MAIN	1	b	b	b	b	b	b	b	b
Sc	CH	REMOTE	2	c	c	c	c	c	c	c	c
Sd	dB	AUDIO MUTING	TAPE-2 MONITOR	d	d	d	d	d	d	d	d
Se	SIMUL SOURCE	CENTER OFF	SURROUND MODE	e	e	e	e	e	e	e	e
Sf	Frame of CD	FM MUTE	DOLBY	f	f	f	f	f	f	f	f
Sg	Frame of PHONO	ON	HALL	g	g	g	g	g	g	g	g
Sh	Frame of TUNER	OFF	SELECTIVE TONE	h	h	h	h	h	h	h	h
Sj	Frame of TAPE-2	STEREO	SOURCE DIRECT	j	j	j	j	j	j	j	j
Sk	Frame of TAPE-1	SIGNAL	MEMORY	k	k	k	k	k	k	k	k
Sm	Frame of VIDEO-2	II(LEVEL1)	SLEEP	m	m	m	m	m	m	m	m
Sn	Frame of VIDEO-1	II(LEVEL2)	CLASSIFIED PREST	n	n	n	n	n	n	n	n
So	SOURCE.........CD				•	•	•	•			
Sp	Frame of SOURCE	II(LEVEL3)	AM(kHz)	p	p	p	p	p	p	p	p
Sr	REC OUT	II(LEVEL4)	FM(MHz)	r	r	r	r	r	r	r	r

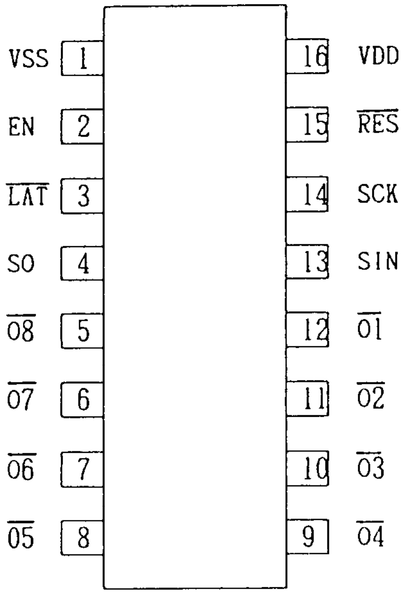
Q703
μPD17103CX-531 (Remote Control Decoder)



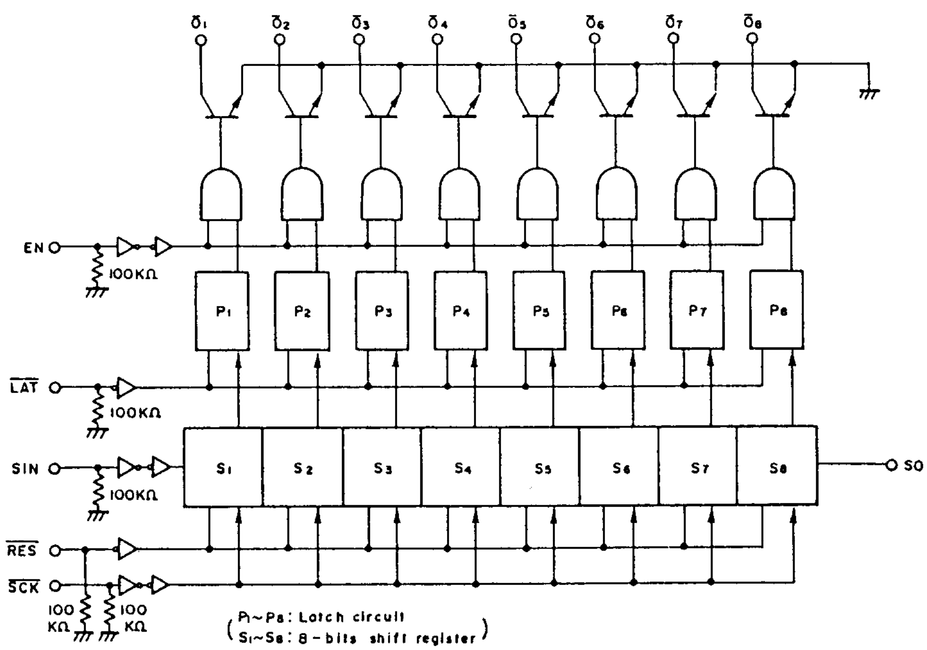


Pin No.	Symbol	Terminal	Description
1	OSC1	OSC	Connect to the 8.00MHz ceramic oscillator.
2	OSC2		
3	RES	RESET	System reset terminal. Active low.
4	POD0	REMOTE IN	Signal input terminal from preamp. for remote control. Active low.
5	POD1	PHONO SENES	Phono detection input terminal. Active low.
6	POD2	POWER	Stand-by detection input terminal. During low input, only the POWER code is decoded.
7	POD3	SYS IN	System code input terminal.
8	V_{DD}	+B	Power supply terminal.
9	POC0	SYS OUT	Output at this terminal are the custom code (16bits) remote control code input to REMOTE IN, data code (8bits), and the serial code (12bits) that has been converted corresponding to the decoded data code (8bits)
10	POC1	PLAYER	When the player PLAY/REEJECT is input, a high pulse of 200ms is output.
11	POC2	VOL DOWN	When the volume DOWN code is input, a high pulse of 120ms is output.
12	POC3	VOL UP	When the volume UP code is input, a high pulse of 120ms is output.
13	POB0	VOL IND	During the output of VOLUME UP/DOWN, a pulse (T T T T T= 250ms) is output. (Not used.)
14	POB1	RECEIVE	This is the display output for remote control reception. Output is low when decoded code is being recieved.
15	POB2	STAND-BY	STAND-BY indication terminal.
16	V_{SS}	GND	Ground terminal.

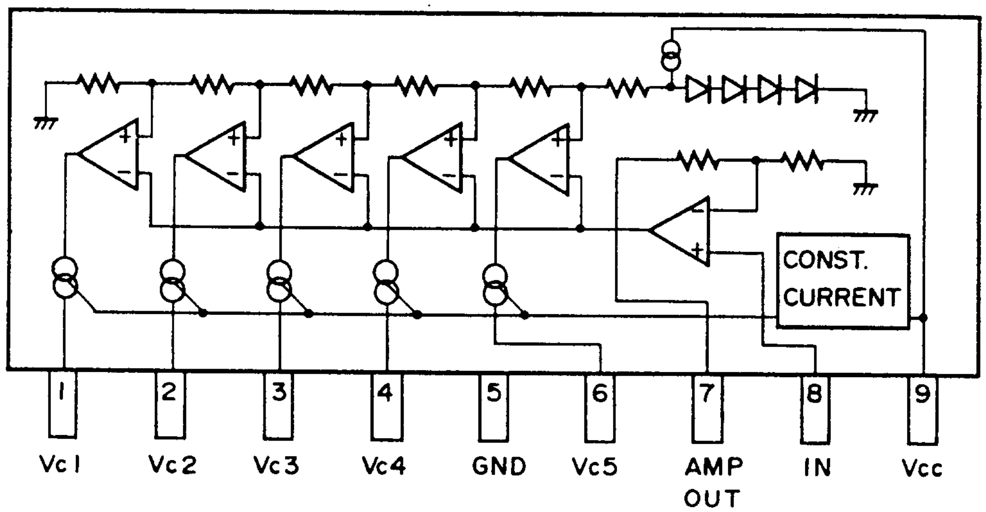
Q705, Q851
μPD6345C (Extended IC)



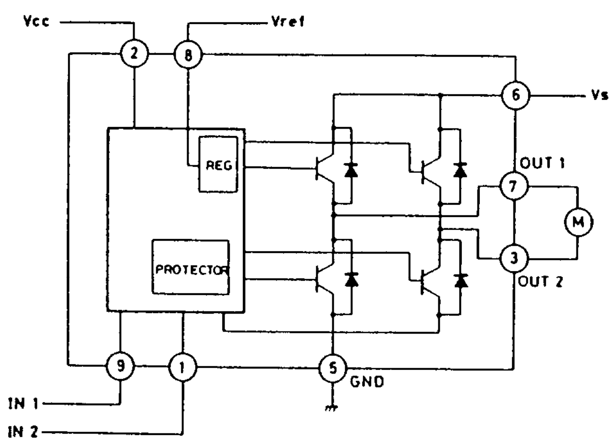
		Q705	Q851
Pin No.	Symbol	Description	Description
1	Vss	Ground terminal.	
2	EN	Chip enable input terminal.Connect to the terminal EN of the microprocessor. Active H.	
3	LAT	Latch input terminal.Connect to the terminal LAT of the microprocessor.	
4	SO	Serial data output terminal.	
5	O8	NR OFF indicator output terminal. Active low.	Headphone relay control output terminal.Active low.
6	O7	NR ON indicator output terminal. Active low.	Rear speaker relay control output terminal.Active low.
7	O6	HB OFF indicator output terminal. Active low.	Remote speaker relay control output terminal.Active low.
8	O5	HB ON indicator output terminal. Active low.	Main speaker relay control output terminal.Active low.
9	O4	LOCAL indicator output terminal. Active low.	Center preout muting control output terminal.Active low.
10	O3	DX indicator output terminal. Active low.	Not used.
11	O2	AUTO indicator output terminal. Active low.	Video selector switch control output terminal.
12	O1	MONO indicator output terminal. Active low.	Video selector switch control output terminal.
13	SIN	Serial data input terminal.Connect to the terminal DATA of the microprocessor.	
14	SCK	Serial clock input terminal.Connect to the terminal CLOCK of the microprocessor.	
15	RESET	Reset input terminal.Active L.	
16	VDD	Power supply terminal.	



Q706
BA6125 (Signal meter driver)



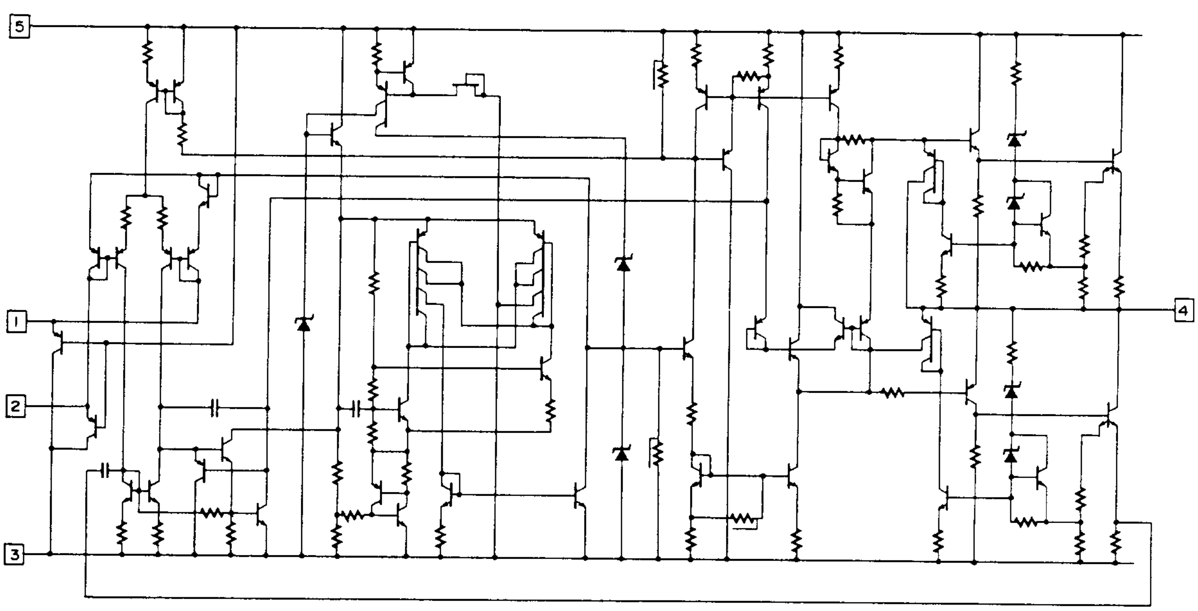
Q871
TA7291S (Volume driver)



INPUT		OUTPUT		MODE
IN 1	IN 2	OUT 1	OUT 2	
0	0	∞	∞	STOP
1	0	H	L	CW/CCW
0	1	L	H	CCW/CW
1	1	L	L	BRAKE

CCW: Counter clockwise direction
CW: Clockwise direction

Q571, Q572
SI-18751 (Power amplifier)

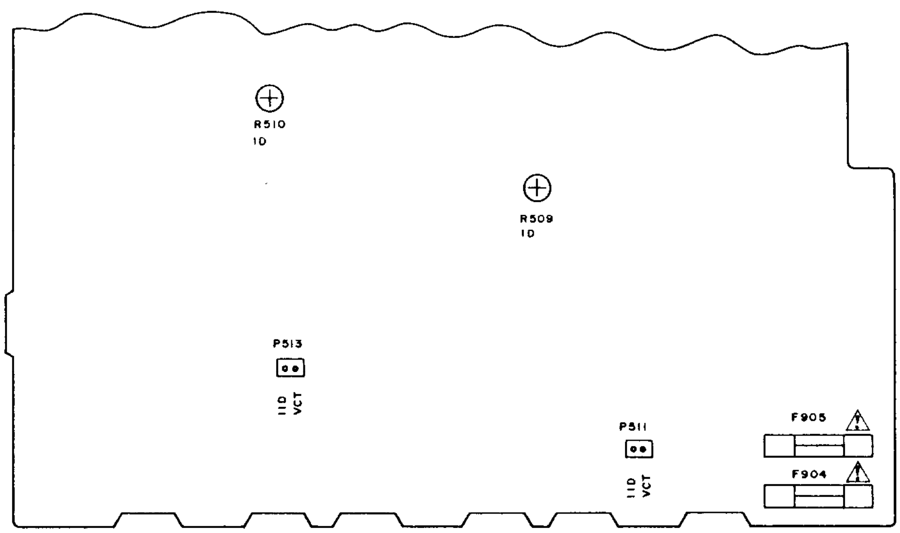


ADJUSTMENT PROCEDURES

- **Preparation**

1. Input
   FM mono: 1kHz, 75kHz devi., 60dB/μV
   FM stereo: 1kHz, 75kHz devi., 60dB/μV
   Pilot signal 19kHz 7.5kHz devi.
   AM: 400Hz 30% mod.
2. Outputs
   Connect the non-inductive type resistors of 8ohms to the main speaker, remote speaker, and rear speaker terminals unless otherwise noted.
3. Standard Knob Position

TAPE MONITOR 2	OFF
VOLUME	Maximum
BASS/TREBLE/BALANCE/INPUT	
BALANCE	Center
MUTING	OFF
REC SELECTOR	SOURCE
INPUT SELECTOR	CD
SPEAKERS	ON
S.T.C.	OFF
SURROUND MODE	OFF
CENTER MODE	WIDE
DELAY TIME	20mS
SIM/REAR LEVEL	Center



SELECTOR AND POWER AMPLIFIER PC BOARD

Amplifier section

Idling Current Adjustment

Connect the DC voltmeter to the terminals IID and VCT on the pre.,and main amplifier pc board. Adjust the semi-fixed resistors R509, and R510 so that indication of voltmeter is 5±0.5mV.

NOTE: Adjust after switching on for 5 minutes.

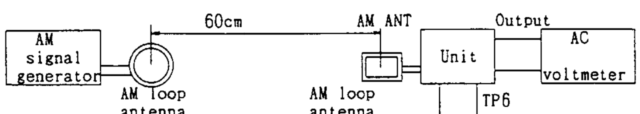
FM section

Item	Step	Connection of instrument	FM SG output	Stereo modulator output	Tuning frequency	Output indicator	Adjustment point	Adjust for	Remarks
FM IF/RF	1	Fig. 1	99.1MHz 1kHz, 75kHz devi. 65dBf (60dB)		99.1MHz	DC voltmeter	L101	0±20mV	FM MUTE/MODE switch: ON/STEREO Repeat the steps 1 and 3 until no further adjustment is necessary.
	2					AC voltmeter	IFT on the front end	Maximum	
	3					Distortion analyzer	L102	Minimum	
VCO		Fig. 2	99.1MHz 1kHz, 75kHz devi. 65dBf (60dB)		99.1MHz	Frequency counter	R201	19kHz±10Hz	
Stereo Distortion		Fig. 3	99.1MHz, Ext mod., 65dBf (60dB)	Channel L or R 1kHz	99.1MHz	Distortion analyzer	IFT on the front end	Minimum	Don't turn more than ±180°
Stereo Separation	1	Fig. 3	99.1MHz Ext. modulation 65dBf (60dB)	Channel L 1kHz	99.1MHz	Channel R AC voltmeter	R202	Minimum	Maximum and same separation.
	2			Channel R 1kHz		Channel L AC voltmeter		Minimum	
Muting Level		Fig. 3	99.1MHz 17.2dBf (12dB)<120V model> 19.2dBf (14dB)<Other model>		99.1MHz	AUTO indicator	R101	Light on	
Signal Level		Fig. 3	99.1MHz 35dBf (30dB)<120V model> 33dBf (28dB)<Other models>		99.1MHz	4th Signal indicator	R102	Light on	

AM section

Step	AM SG output	Tuning frequency	Output indicator	Adjustment point	Adjust for
1		530kHz (522kHz)	Digital DC voltmeter	OSC coil on RF block L151	1.2±0.1V (1.3±0.1V)
2	600kHz (603kHz) 400Hz, 30% mod. 60dB/m	600kHz (603kHz)	AC voltmeter	RF coil on RF block L151	Maximum
3	990kHz 400Hz, 30% mod. 60dB/m	990kHz	AC voltmeter	L152	Maximum

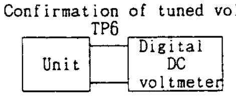
( ): 9kHz step model

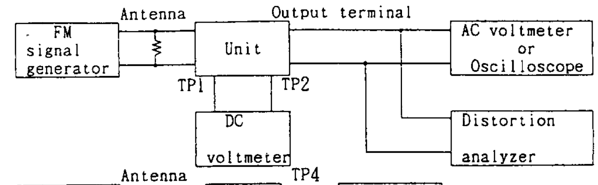


<AM instrument connection>

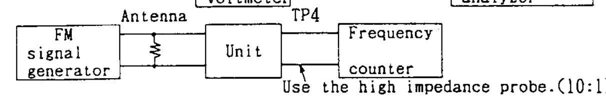
Reference Specifications
FM tuned voltage: 87.5MHz – 108.00MHz
1.6±0.4V – 8.0±0.4V
AM tuned voltage: 530kHz 1.2±0.5V, 1710kHz 7.0±0.5V — 120V model
522kHz 1.3±0.4V, 1611kHz 7.5±0.4V — 230/240 model
531kHz 1.3±0.4V, 1602kHz 7.5±0.4V — Worldwide models
Auto stop level: AM: Less than 65dB/m
FM: Less than 16dB/μ

Confirmation of tuned voltage

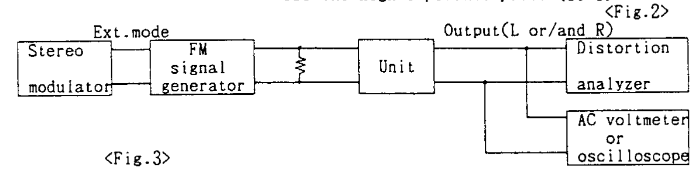




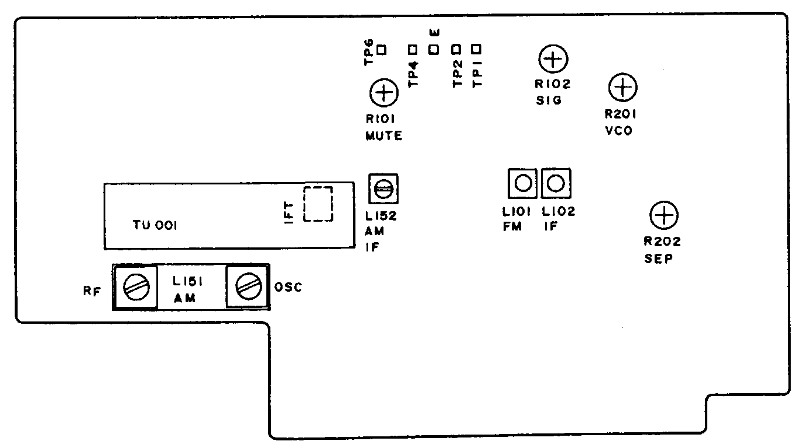
<Fig.1>



<Fig.2>

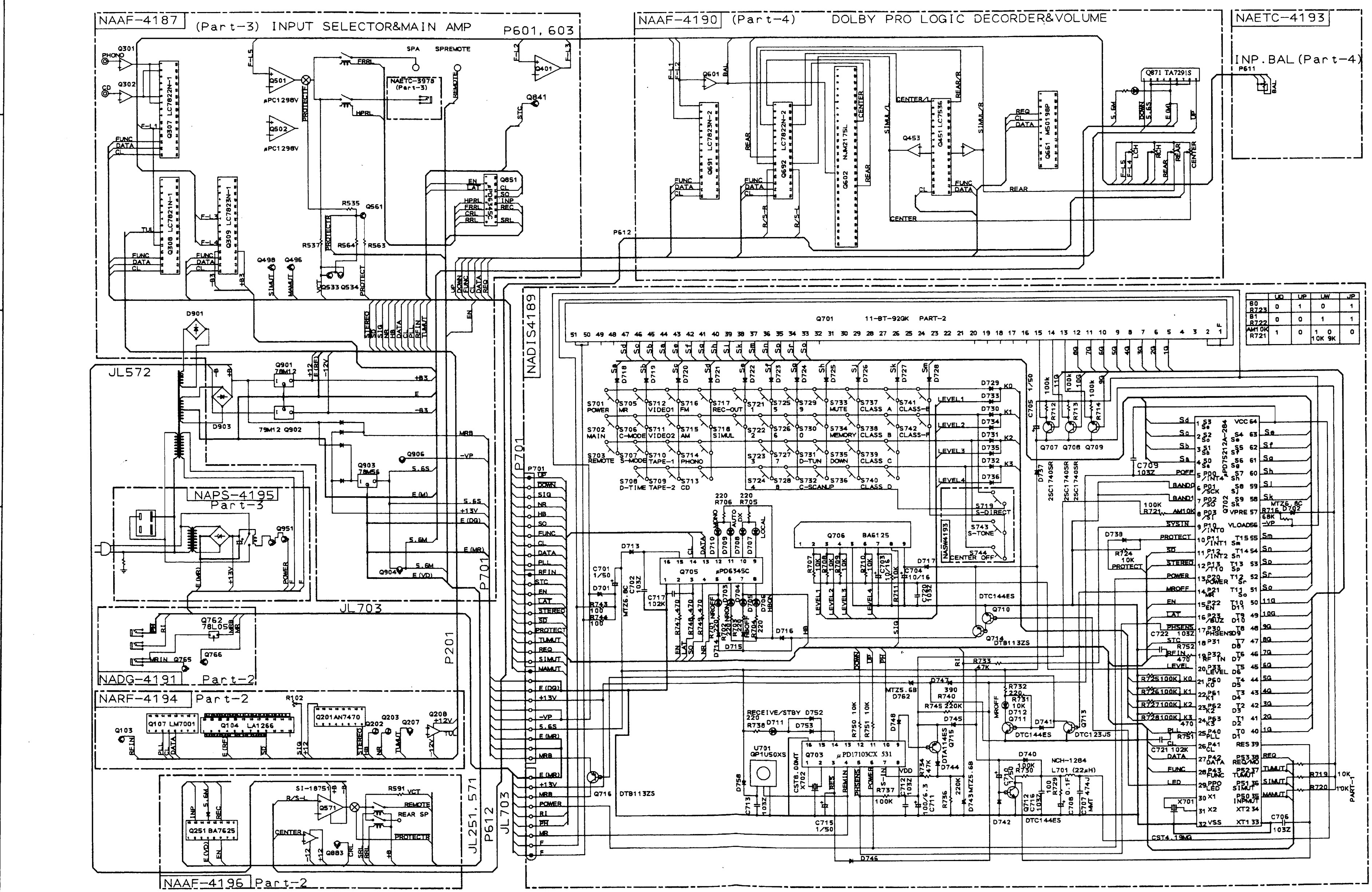


<Fig.3>



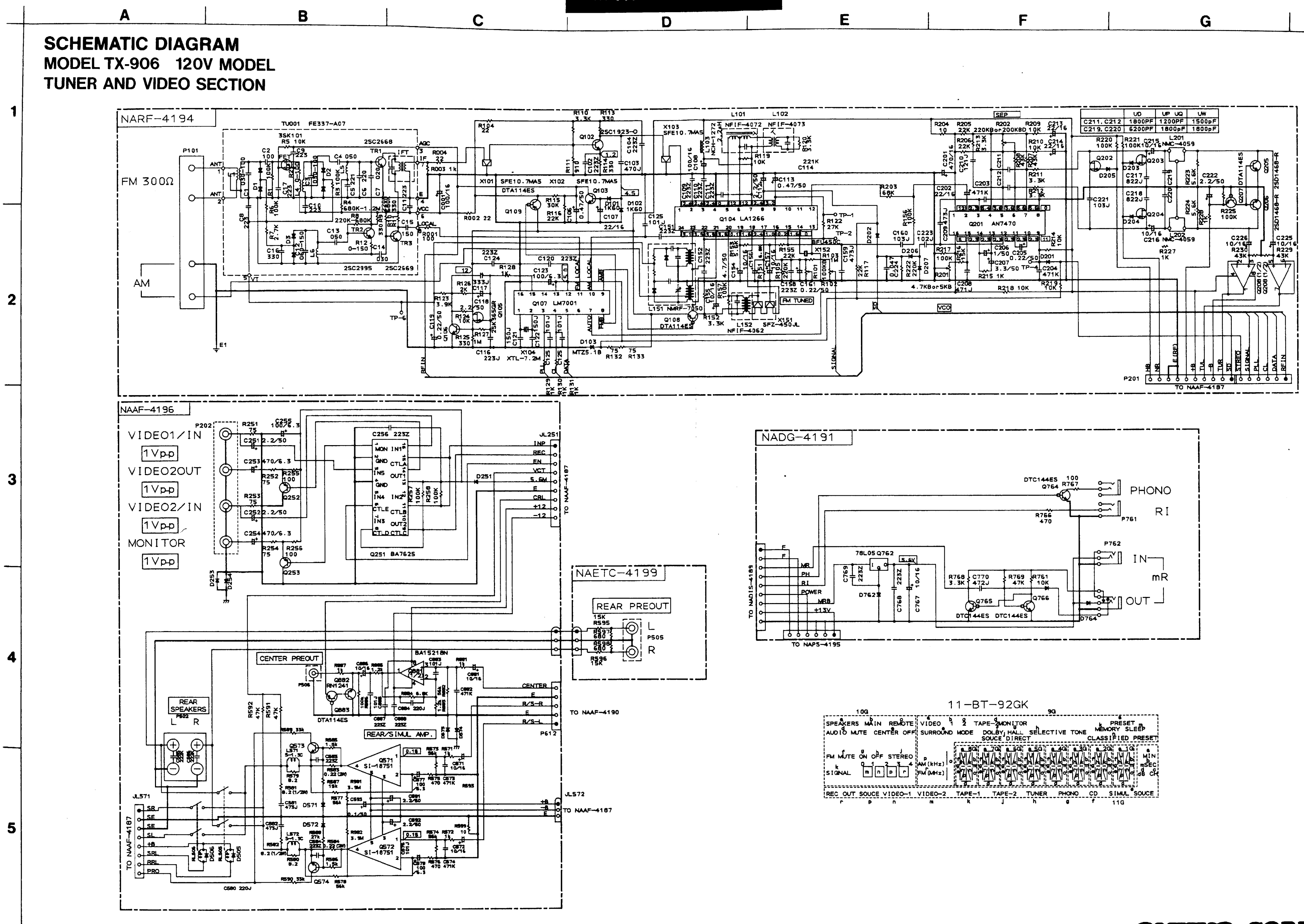
Tuner circuit pc board

SCHEMATIC DIAGRAM
MODEL TX-906 120V MODEL
CONNECTION DIAGRAM OF MICROPROCESSOR



ONKYO CORPORATION

SCHEMATIC DIAGRAM
MODEL TX-906 120V MODEL
TUNER AND VIDEO SECTION

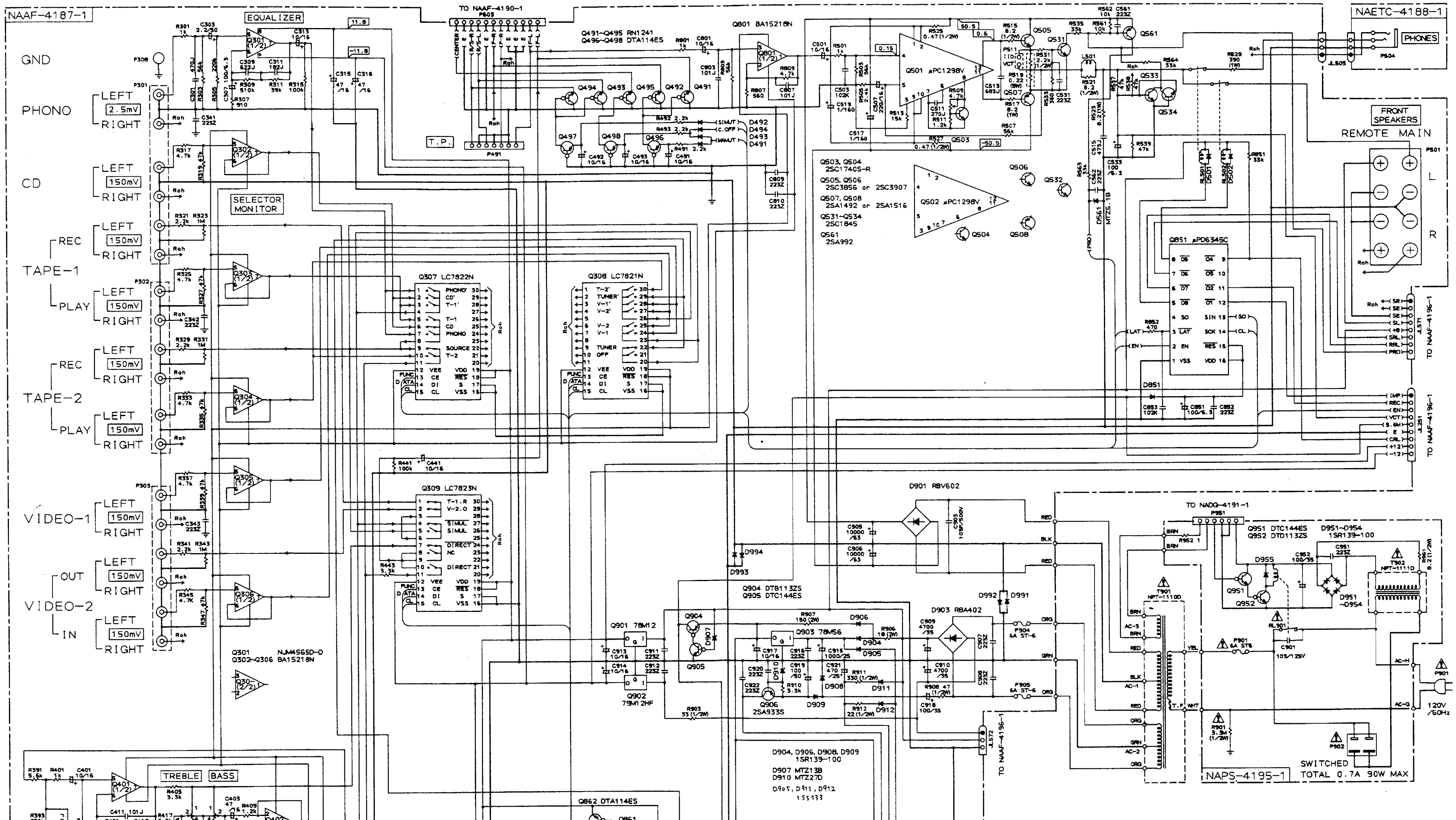


ONKYO CORPORATION

SCHEMATIC DIAGRAM

MODEL TX-906 120V MODEL

AUDIO SECTION



NOTE

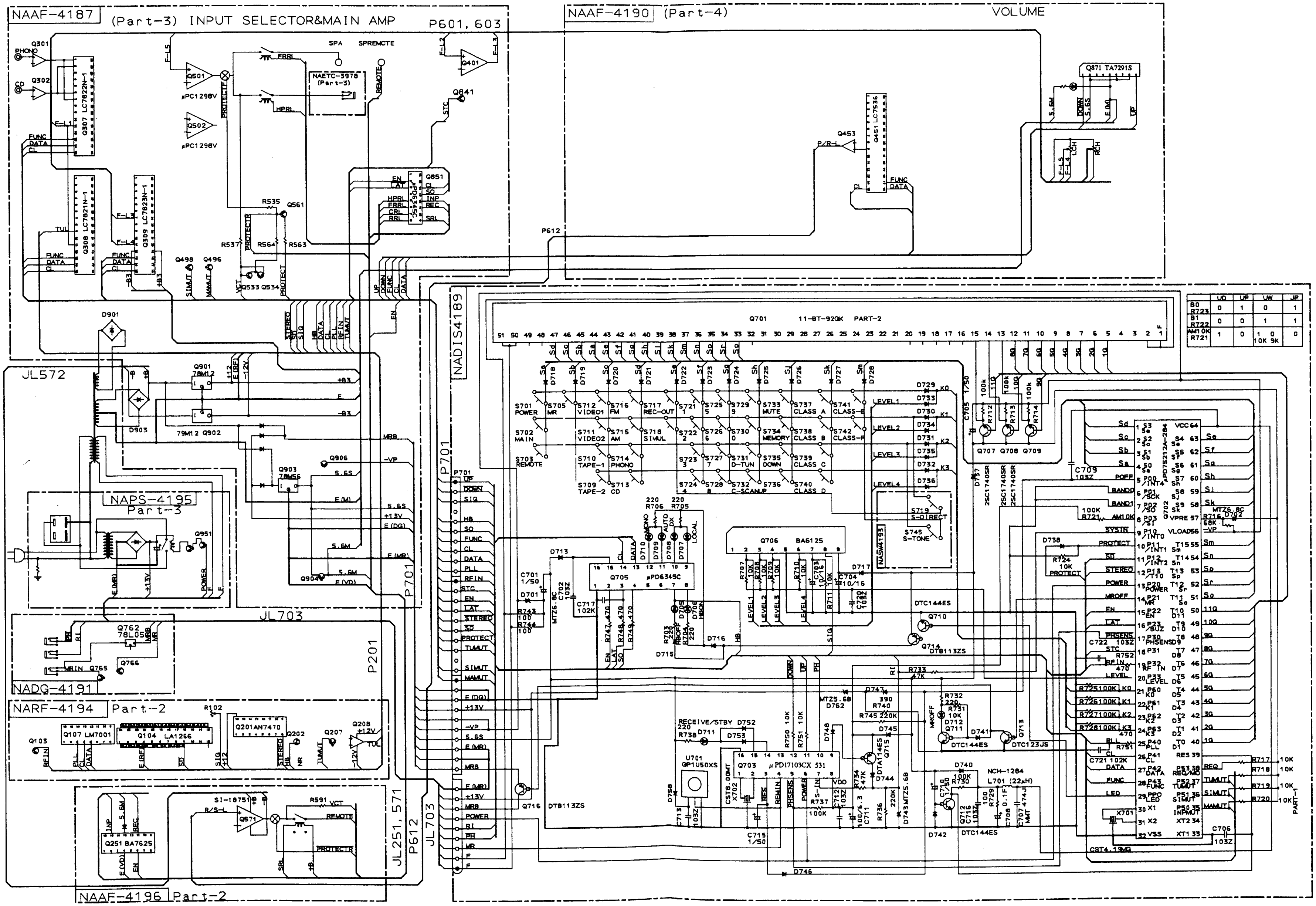
- THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
- VOLTAGE (MEASURED WITH VOLTMETER) ▭ IS DC VOLTAGE. (NO INPUT SIGNAL)
- ALL PNP TRANSISTORS ARE EQUIVALENT TO 2SA933S-R UNLESS OTHERWISE NOTED.
- ALL NPN TRANSISTORS ARE EQUIVALENT TO 2SC1740S-R UNLESS OTHERWISE NOTED.
- ALL DIODES ARE EQUIVALENT TO 1SS133 UNLESS OTHERWISE NOTED.
- ELECTROLYTIC CAPACITORS (⊣⊢) ARE IN μF/WV.
- ALL CAPACITORS ARE IN pF/50WV UNLESS OTHERWISE NOTED. EX) 3pF→030, 33pF→330, 330pF→331, 0.033μF→333
- ALL RESISTORS ARE IN OHMS 1/4 WATTS UNLESS OTHERWISE NOTED.
- THE THICK LINES IN PC BOARD ARE THE PRINTING SIDE OF THE PARTS. EX) ▭ ↙ PRINTING SIDE
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

ONKYO CORPORATION

SCHEMATIC DIAGRAM

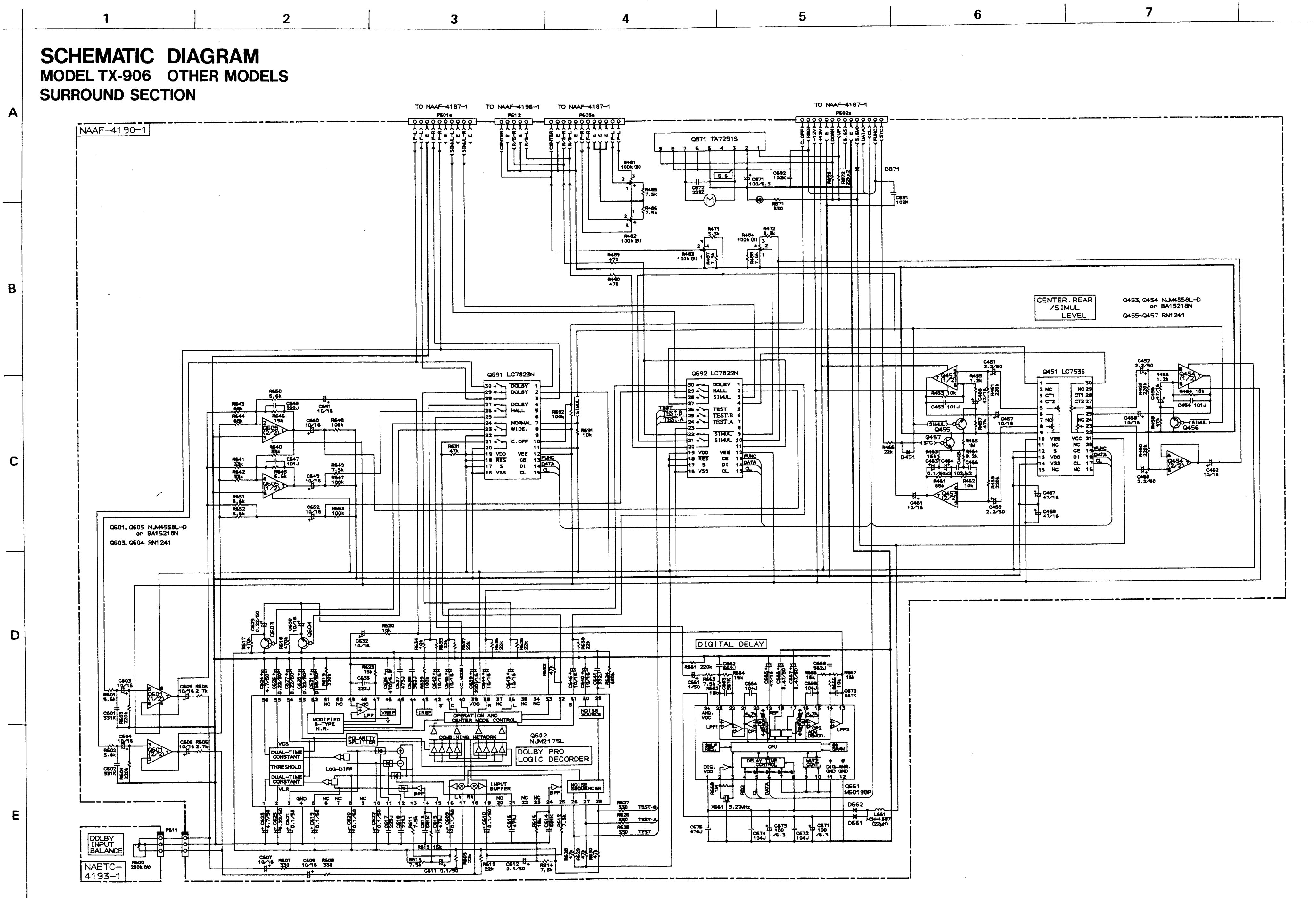
MODEL TX-904 120V MODEL

CONNECTION DIAGRAM OF MICROPROCESSOR



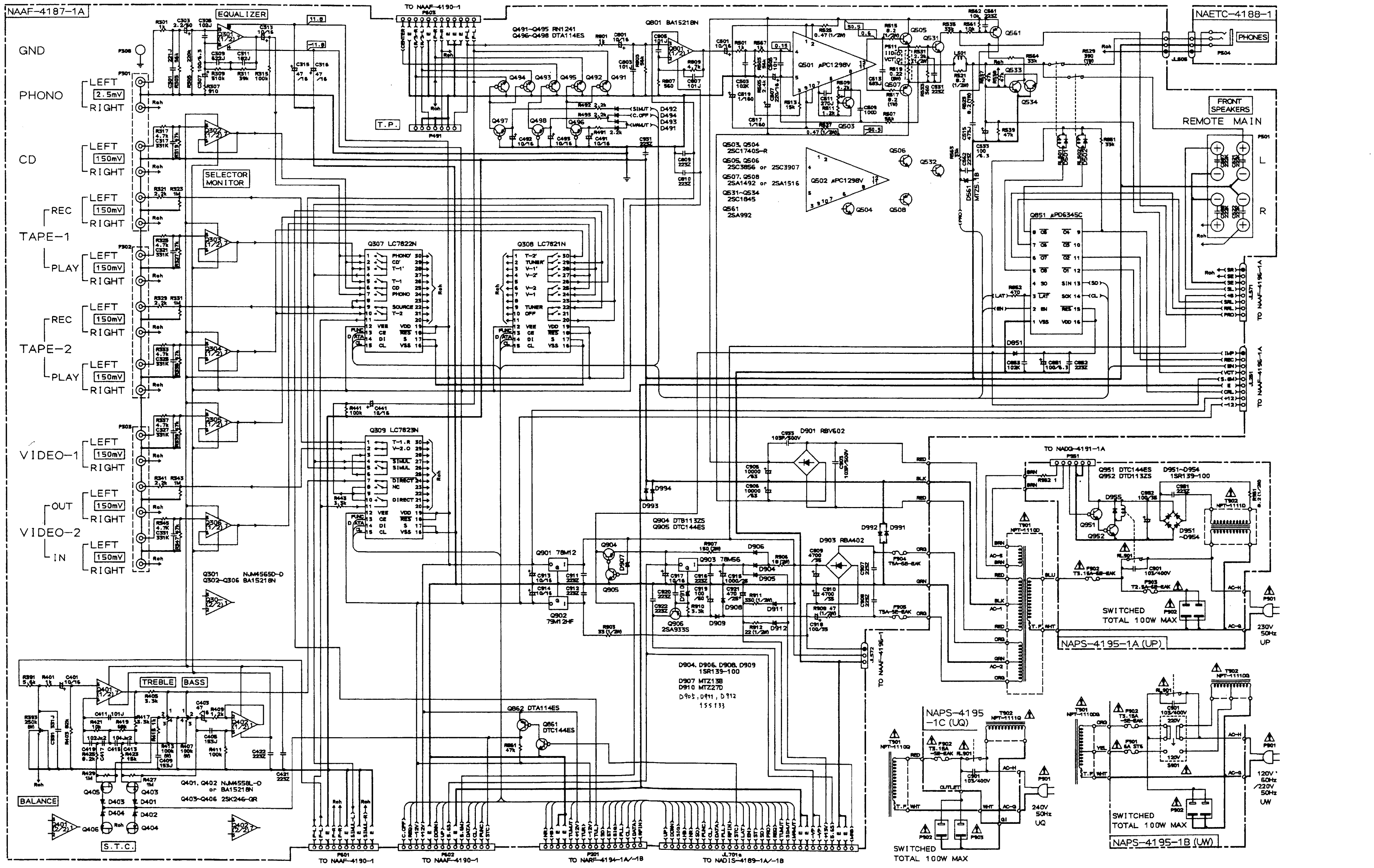
	UD	UP	UW	JP
B0 R723	0	1	0	1
B1 R722	0	0	1	1
AM10K R721	1	0	1 0 10K 9K	0

SCHEMATIC DIAGRAM
MODEL TX-906 OTHER MODELS
SURROUND SECTION



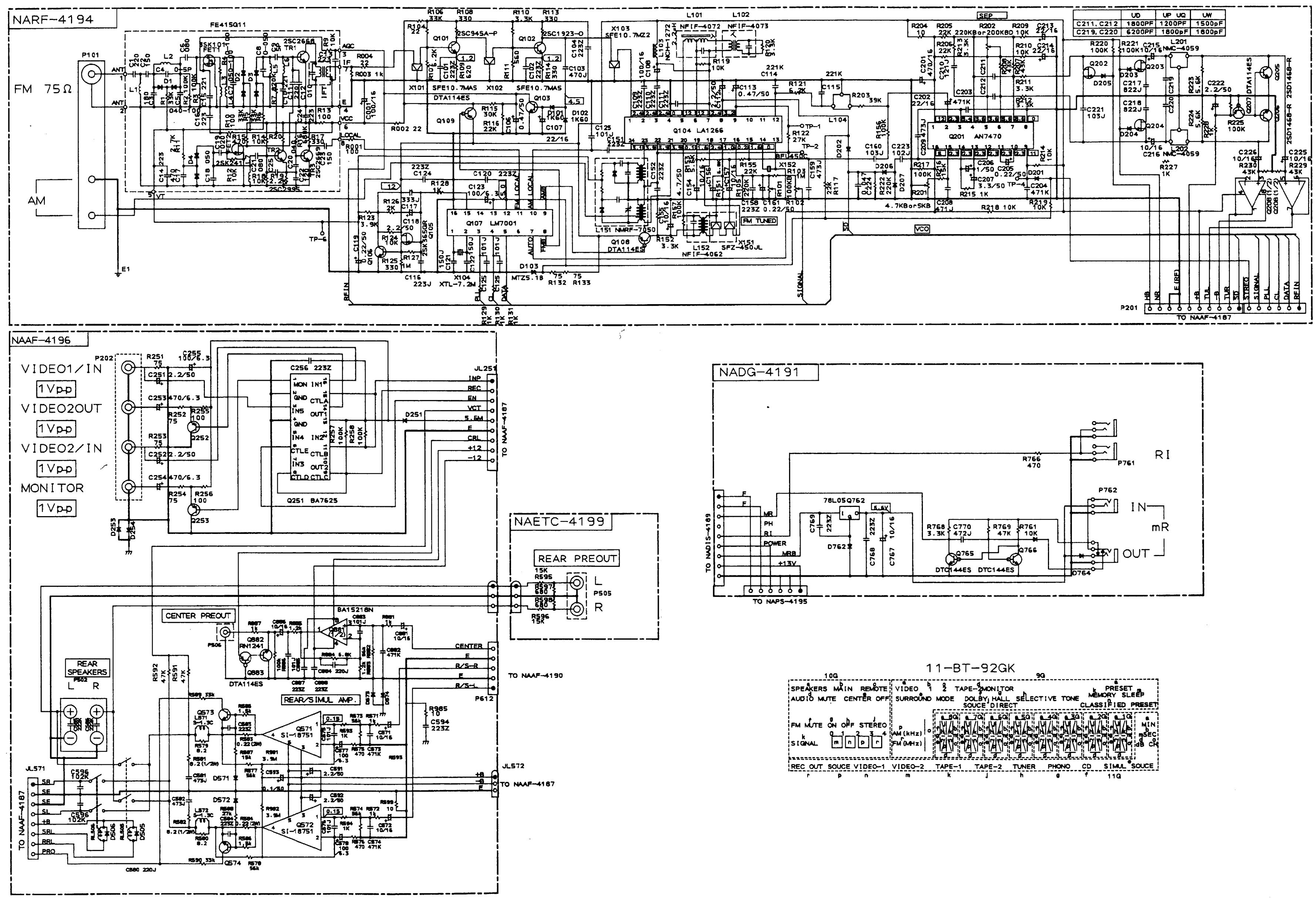
ONKYO CORPORATIO

SCHEMATIC DIAGRAM
MODEL TX-906 OTHER MODELS
AUDIO SECTION



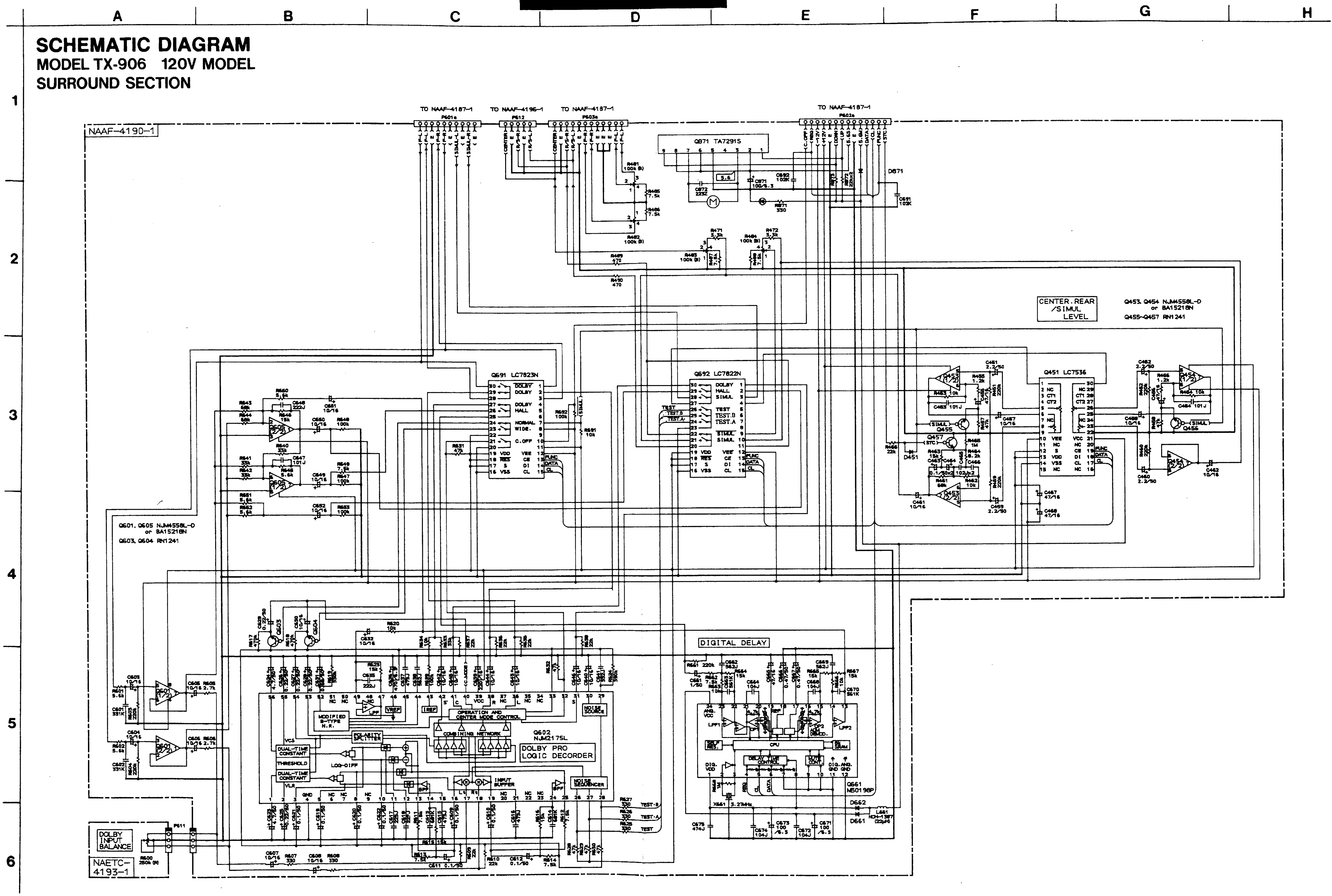
ONKYO CORPORATION

SCHEMATIC DIAGRAM
MODEL TX-906 OTHER MODELS
TUNER AND VIDEO SECTION



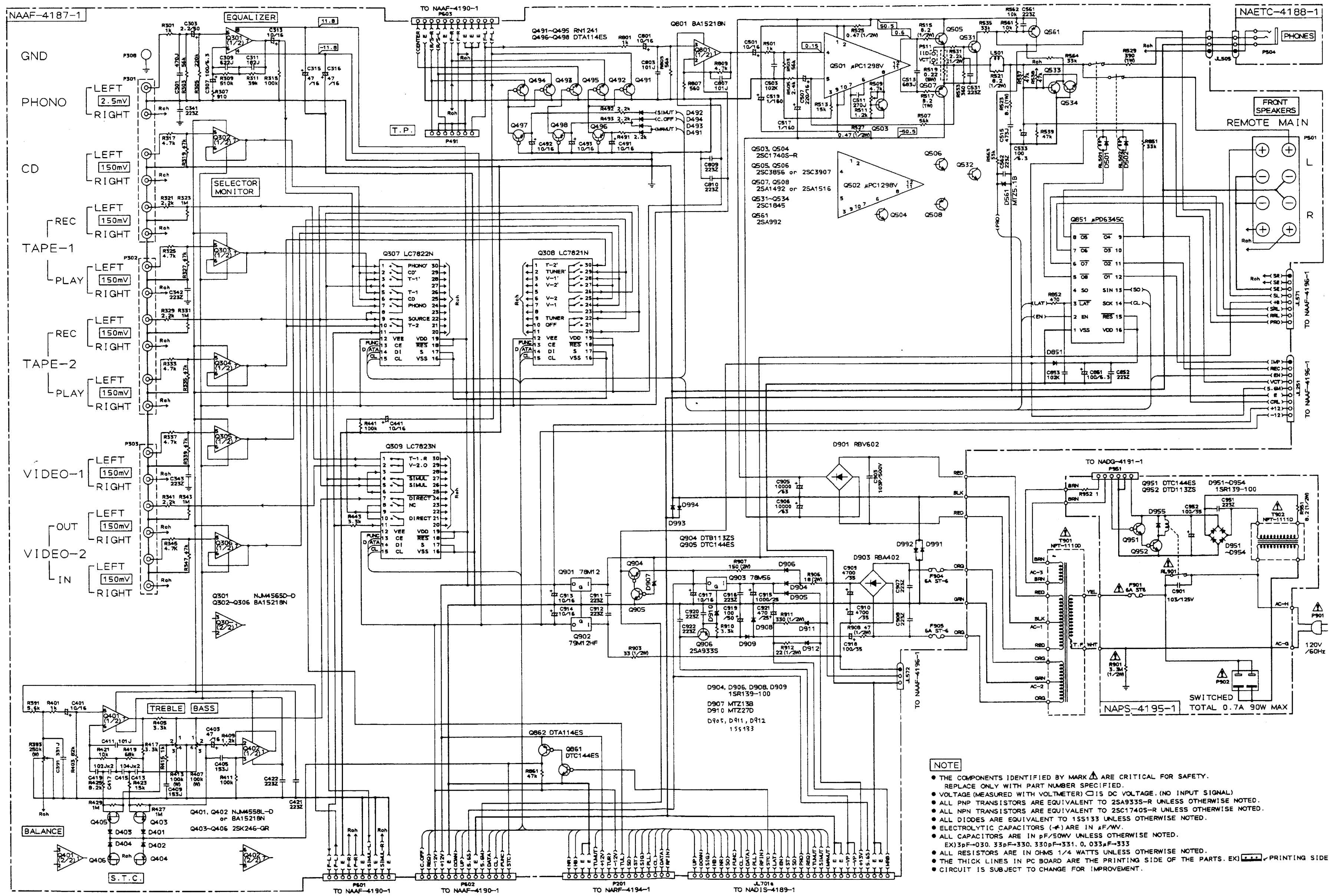
ONKYO CORPORATION

SCHEMATIC DIAGRAM
MODEL TX-906 120V MODEL
SURROUND SECTION



ONKYO CORPORATION

SCHEMATIC DIAGRAM
MODEL TX-906 120V MODEL
AUDIO SECTION



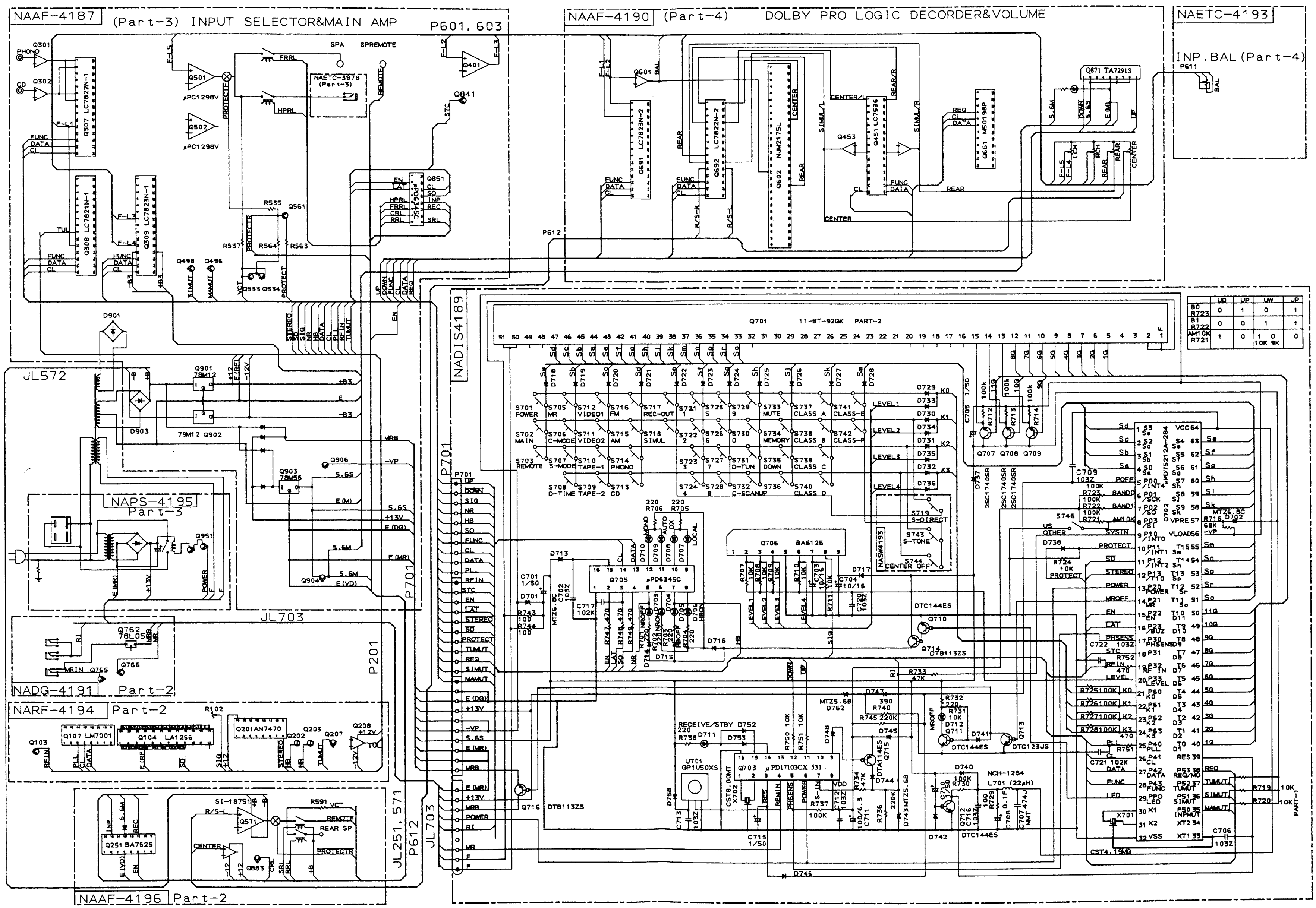
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ONKYO CORPORATION

SCHEMATIC DIAGRAM

MODEL TX-906 OTHER MODELS

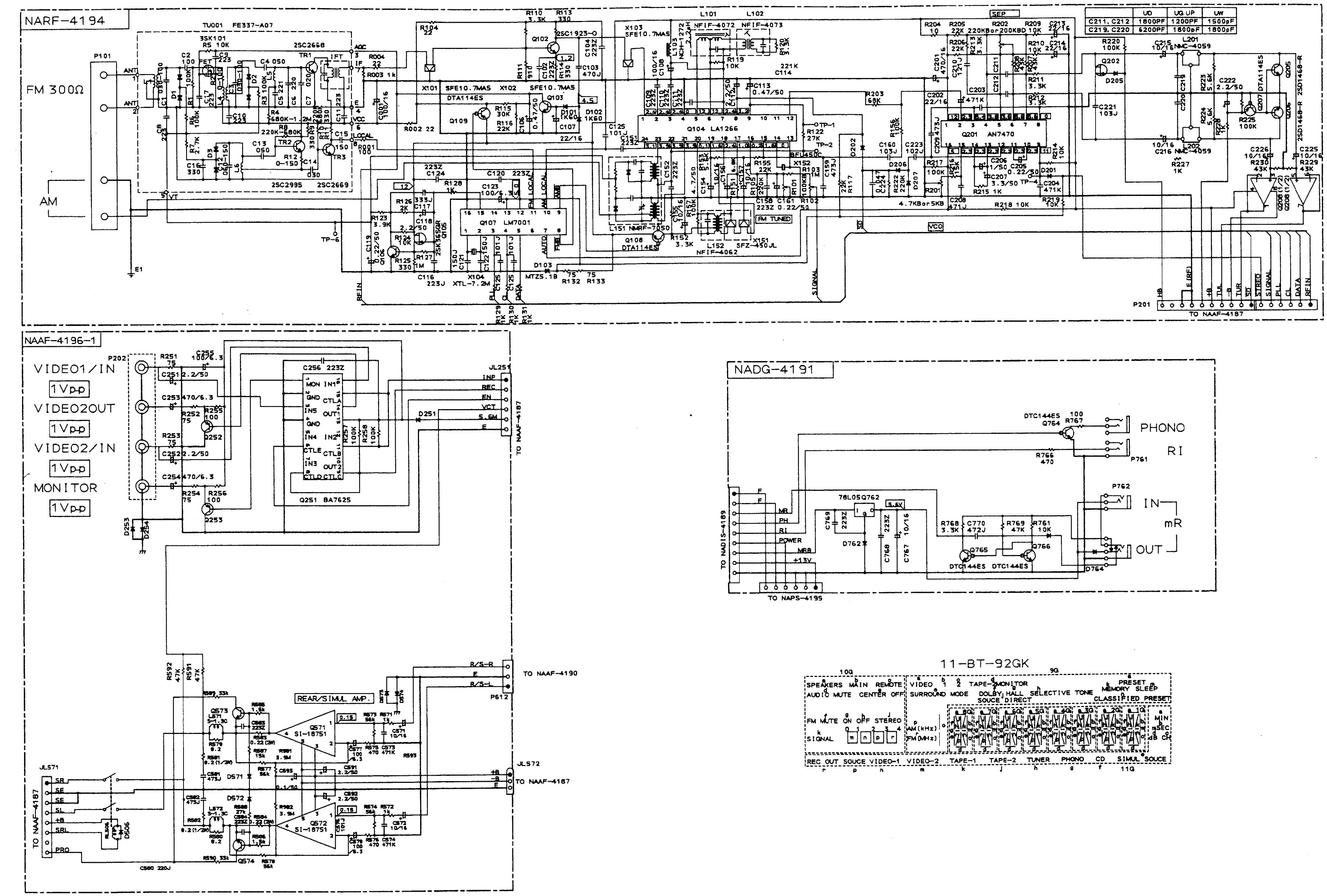
CONNECTION DIAGRAM OF MICROPROCESSOR



	UD	UP	UW	JP
B0 R723	0	1	0	1
B1 R722	0	0	1	1
AM10K R721	1	0	1 0 10K 9K	0

ONKYO CORPORATION

SCHEMATIC DIAGRAM
MODEL TX-904 120V MODEL
TUNER AND VIDEO SECTION

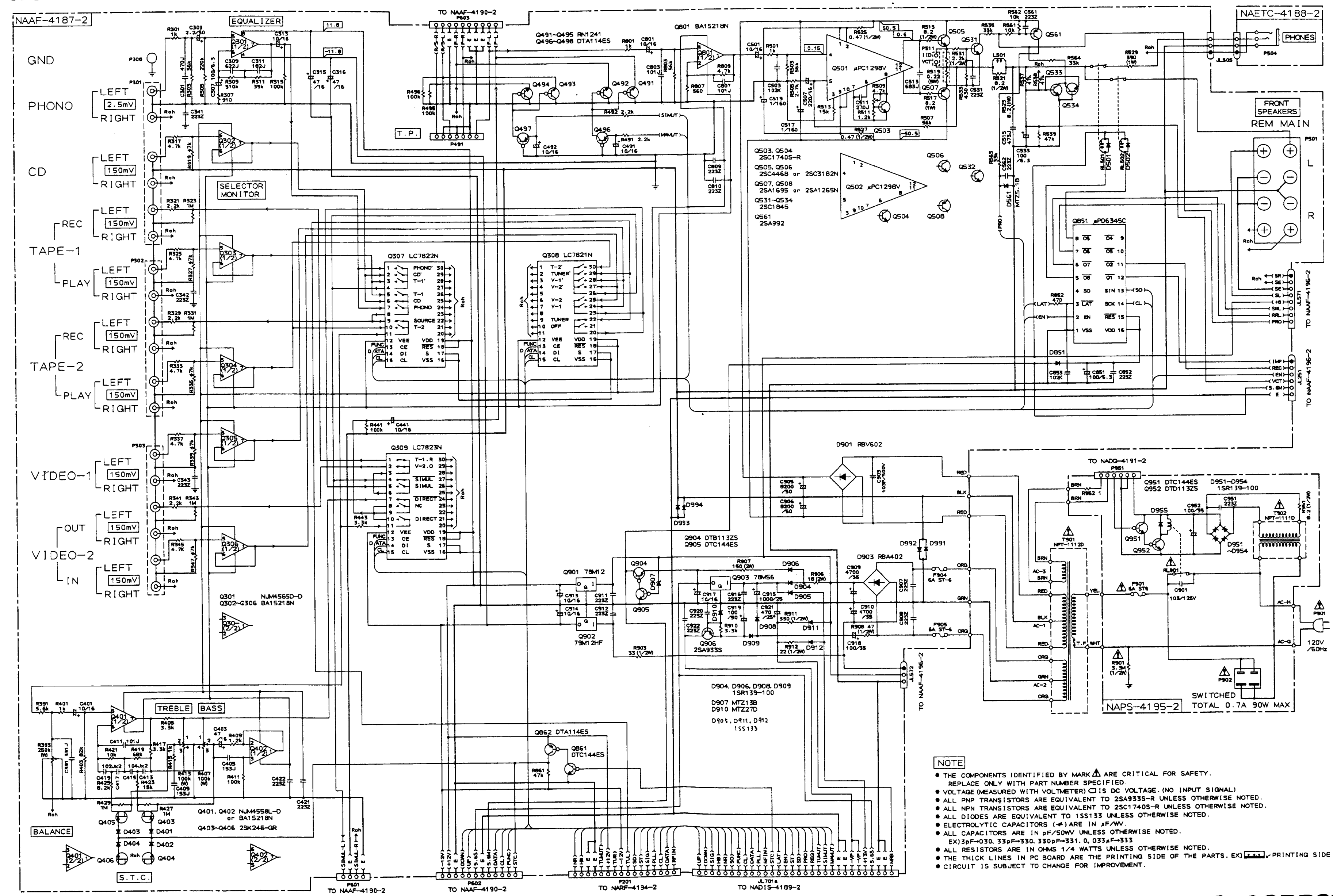


ONKYO CORPORATIO

SCHEMATIC DIAGRAM

MODEL TX-904 120V MODEL

AUDIO SECTION

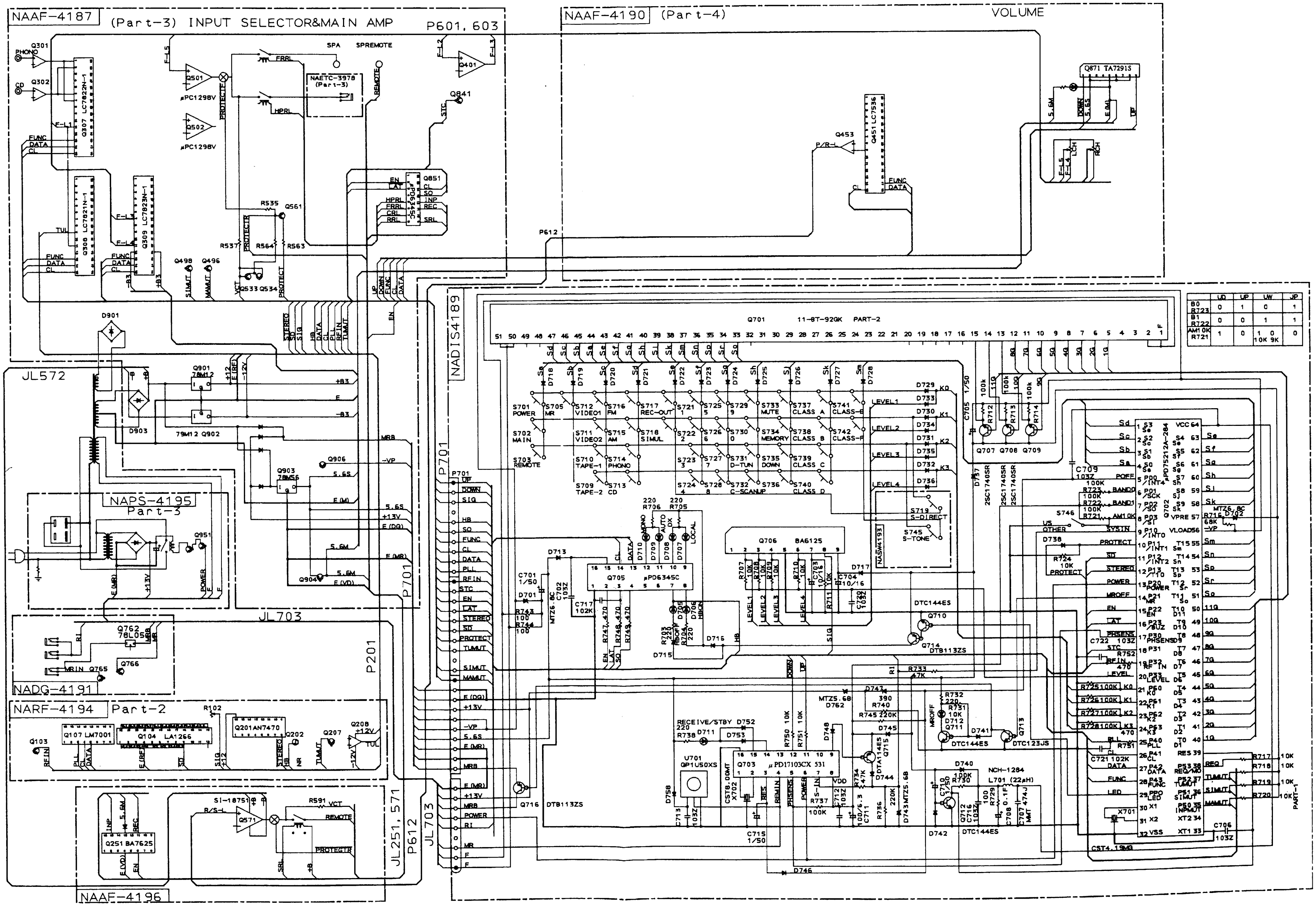


NOTE

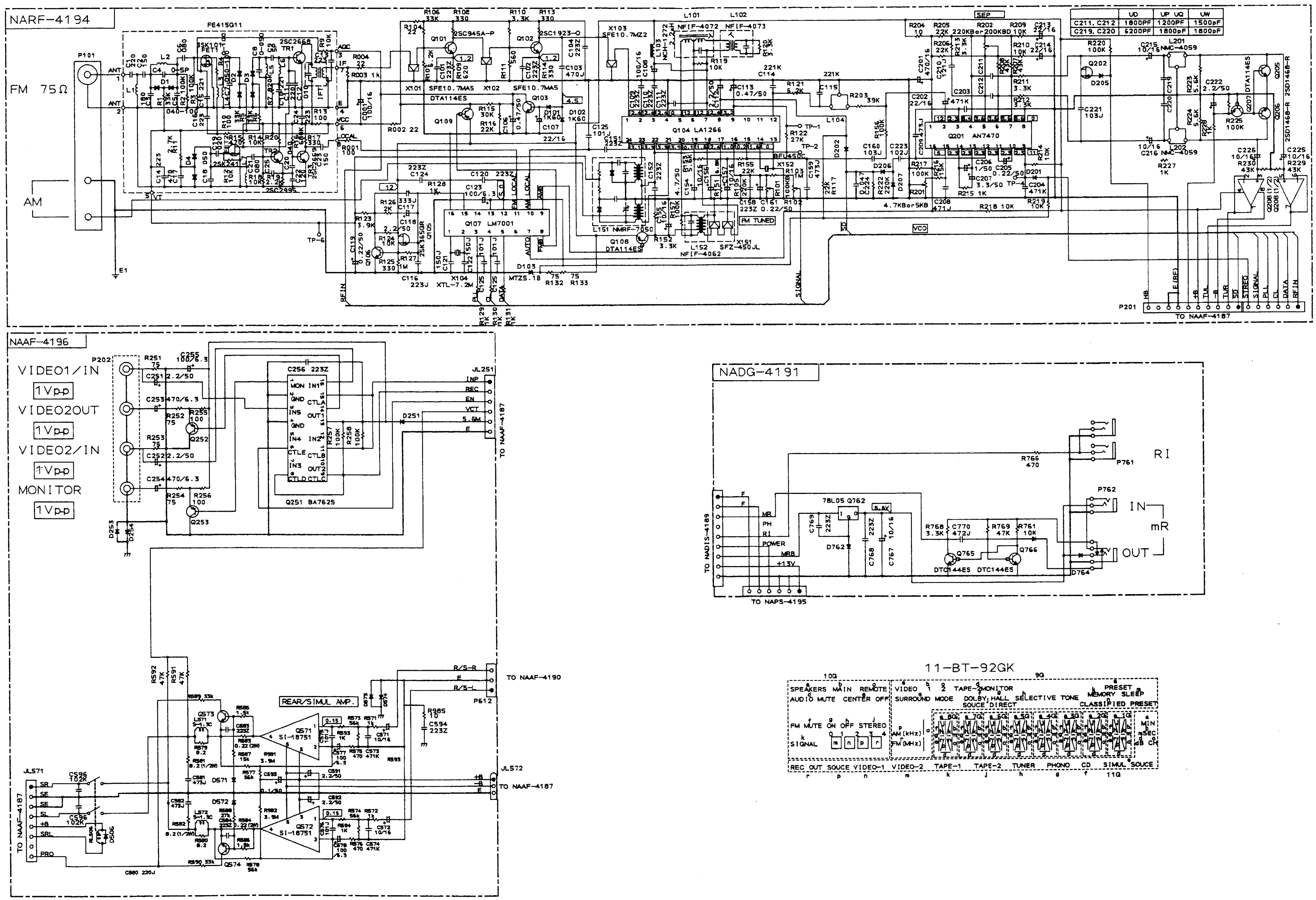
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ONKYO CORPORATION

SCHEMATIC DIAGRAM
MODEL TX-904 OTHER MODELS
DIAGRAM OF MICROPROCESSOR

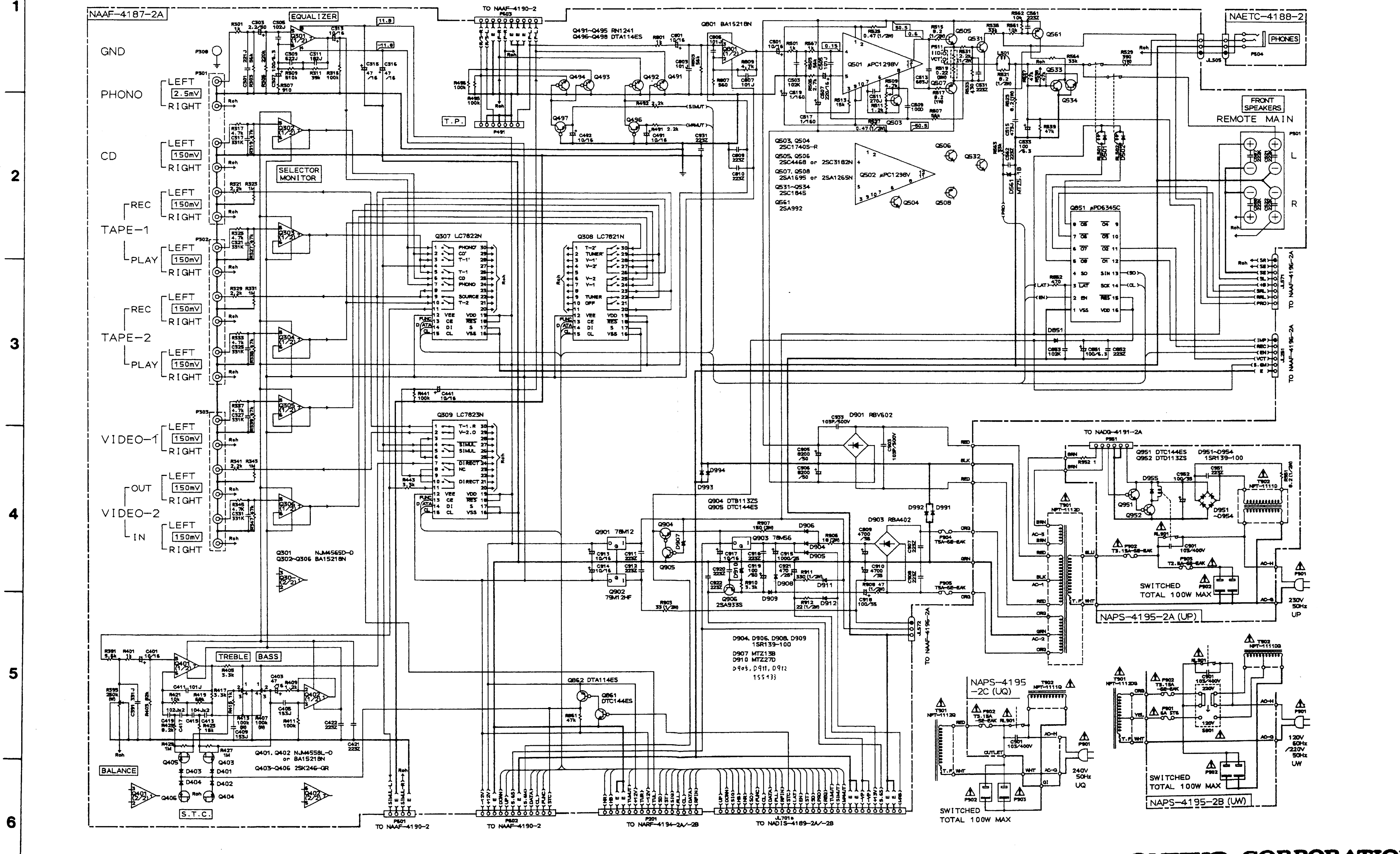


SCHEMATIC DIAGRAM
MODEL TX-904 OTHER MODELS
TUNER AND VIDEO SECTION



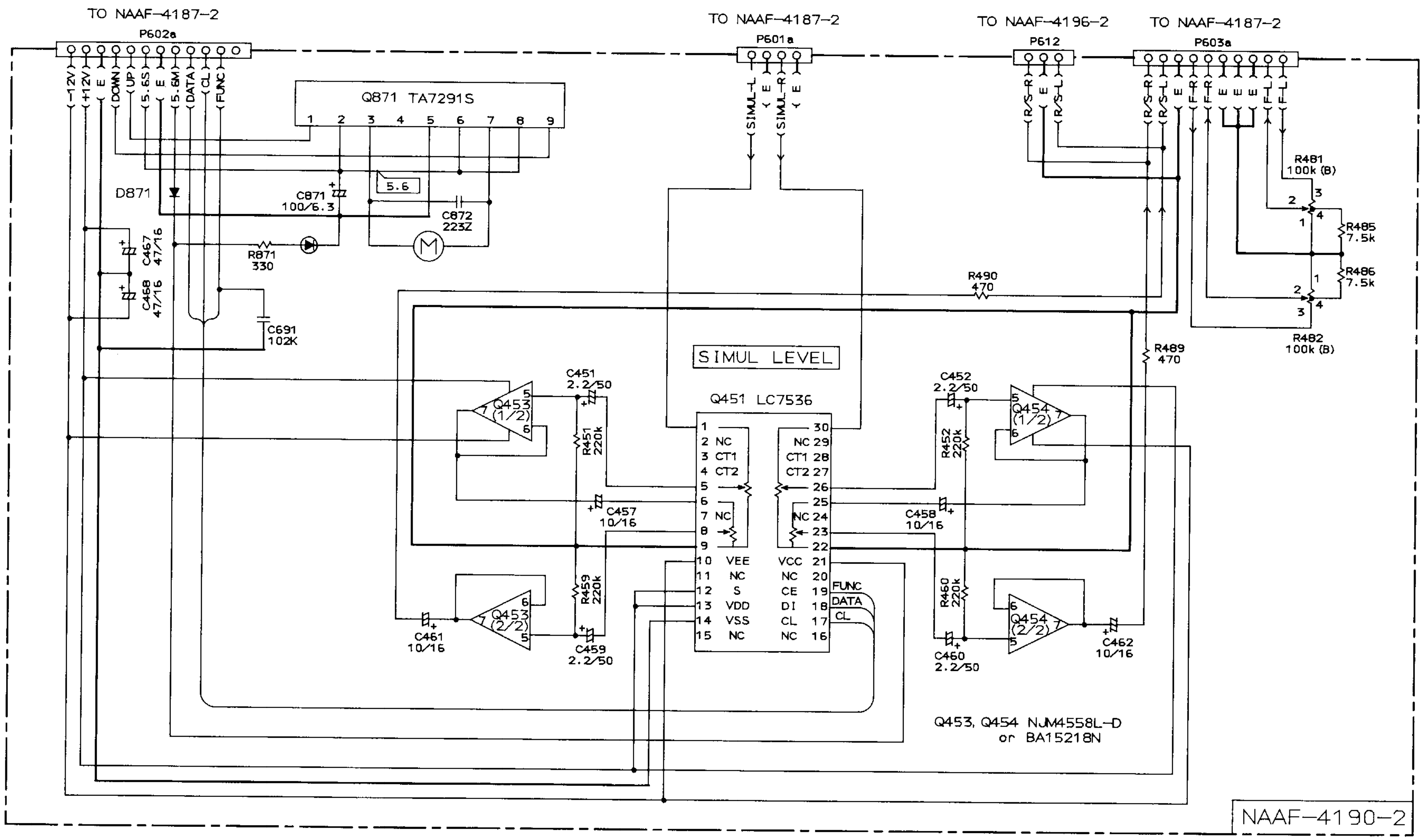
ONKYO CORPORATION

SCHEMATIC DIAGRAM
MODEL TX-904 OTHER MODELS
AUDIO SECTION

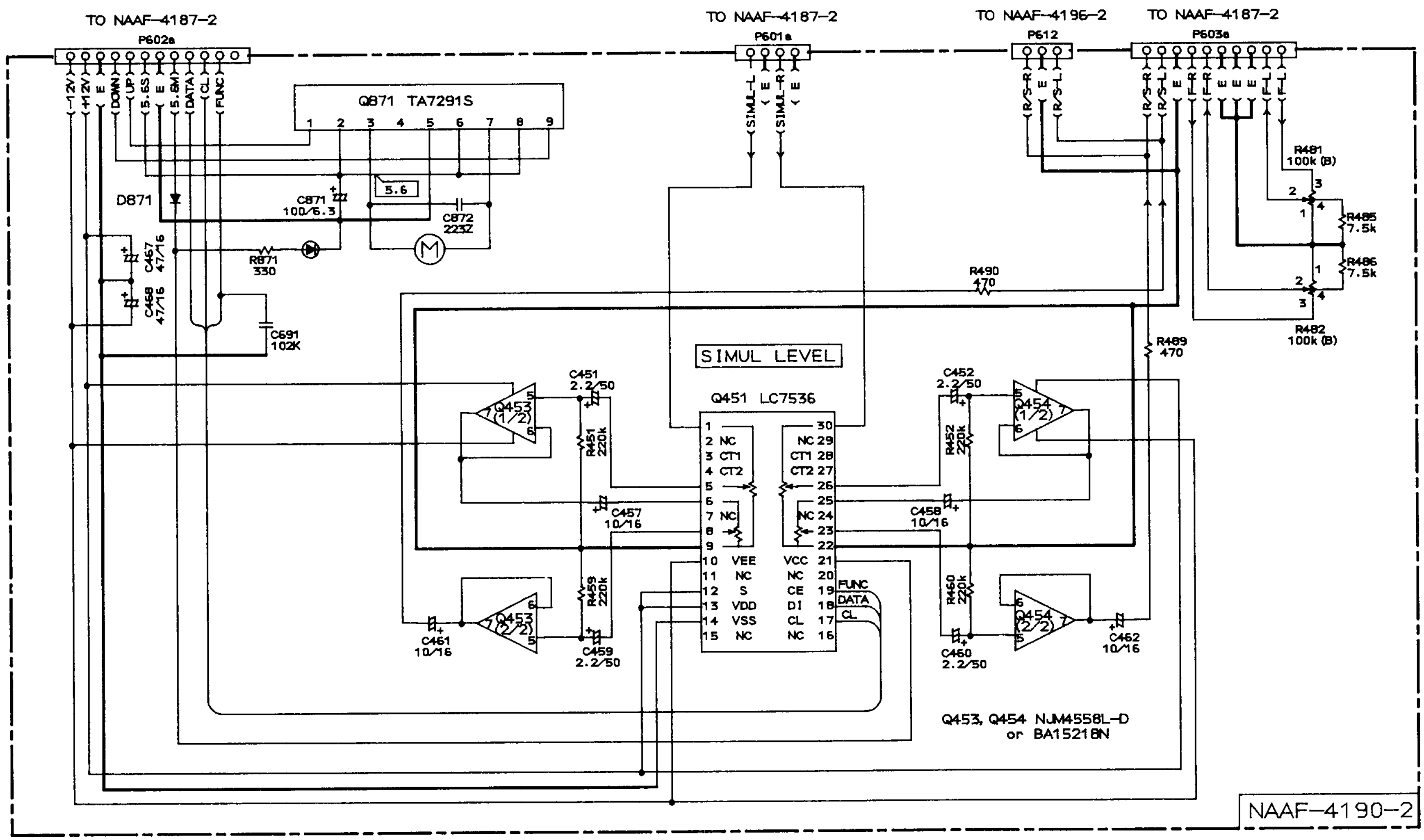


SCHEMATIC DIAGRAM

MODEL TX-904 120V MODEL
VOLUME SECTION



SCHEMATIC DIAGRAM
MODEL TX-904 OTHER MODELS
VOLUME SECTION



PRINTED CIRCUIT BOARD PARTS LIST

CAUTION: Replacement for transistor of mark ☆, if necessary must be made from the same beta group (HFE) as the original type.

MODEL TX-906

SELECTOR AND POWER AMPLIFIER PC BOARD (NAAF-4187-1/1A)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q301	22240191	NJM4565D-D
Q302-Q306	22240247	BA15218N
Q307	22240270	LC7822N
Q308	22240280	LC7821N
Q309	22240339	LC7823N
Q401,Q402	22240247 or	BA15218N or
	22240293	NJM4558L-D
Q501,Q502	22240311	μPC1298V
Q801	22240247	BA15218N
Q851	22240211	μPD6345C
Q901	222780122NEC	78M12
Q902	222790125	79M12
Q903	222780565JRC	78M56
	Transistors	
Q403-Q406	2211945	2SK246-GR
Q491-Q495	2213631 or	RN1241-A or
	2213632	RN1241-B
Q496-Q498	2213510	DTA114ES
Q503,Q504	2213284	2SC1740S-R
Q505,Q506	2201653,	☆ 2SC3856-O,
	2201654,	☆ 2SC3856-Y,
	2201655,	☆ 2SC3856-P,
	2202272 or	☆ 2SC3907-R or
	2202273	☆ 2SC3907-O
Q507,Q508	2201663,	☆ 2SA1492-O,
	2201664,	☆ 2SA1492-Y,
	2201665,	☆ 2SA1492-P,
	2202262 or	☆ 2SA1516-R or
	2202263	☆ 2SA1516-O
Q531-Q534	2211732 or	2SC1845-F or
	2211733	2SC1845-E
Q561	2211792 or	2SA992-F or
	2211793	2SA992-E
Q861,Q905	221282	DTC144ES
Q862	2213510	DTA114ES
Q904	2213830	DTB113ZS
Q906	2213354	2SA933S-R
	Diodes	
D401-D404	223163	1SS133
D491-D493	223163	1SS133
D501,D502	223163	1SS133
D561	224450512	MTZ5.1B,Zener
D851,D905	223163	1SS133
D901	22380038	RBV602
D903	22380048	RBA402
D904,D906	22380032	1SR139-100
D907	224450913	MTZ9.1C,Zener
D908,D909	22380032	1SR139-100
D910	224452704	MTZ27D,Zener
D911,D912	223163	1SS133
D991-D994	223163	1SS133
	Coils	
L501,L502	231176	S-1.3C
	Capacitors	
C301,C302	373302214	220pF±5%,125V,Plastic <P/W>
C303,C304	391980227	2.2μF,50V,Elect.
C305,C306	373301024	1000pF±5%,125V,Plastic <P/W>
C307,C308	391921017	100μF,6.3V,Elect.
C309,C310	374726224	6200pF±5%,50V,Plastic
C311,C312	374721824	1800pF±5%,50V,Plastic
C313,C314	391941007	10μF,16V,Elect.

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C315,C316	354744709	47μF,16V,Elect.
C317,C318	373303314	330pF±5%,125V,Plastic <P/W>
C391,C392	373303314	330pF±5%,125V,Plastic
C401,C402	391941007	10μF,16V,Elect.
C403,C404	354744709	47μF,16V,Elect.
C405,C406	374721534	0.015μF±5%,50V,Plastic
C409,C410	374721534	0.015μF±5%,50V,Plastic
C413-C416	374721044	0.1μF±5%,50V,Plastic
C417-C420	374721024	1000pF±5%,50V,Plastic
C441,C442	391941007	10μF,16V,Elect.
C491-C493	391941007	10μF,16V,Elect.
C501,C502	391941007	10μF,16V,Elect.
C507,C508	354742219	220μF,16V,Elect.
C513,C514	374726834	0.068μF±5%,50V,Plastic
C515,C516	374724734	0.047μF±5%,50V,Plastic
C517-C520	354700109	1μF,160V,Elect.
C533	391921017	100μF,6.3V,Elect.
C801,C802	391941007	10μF,16V,Elect.
C851	391921017	100μF,6.3V,Elect.
C905,C906	3504244	10000μF,63V,Elect.
C909,C910	3504213	4700μF,35V,Elect.
C913,C914	391941007	10μF,16V,Elect.
C915	354751029	1000μF,25V,Elect.
C917	391941007	10μF,16V,Elect.
C918	354761019	100μF,35V,Elect.
C919	354781019	100μF,50V,Elect.
C921	354754719	470μF,25V,Elect.
	Resistors	
R393	5104225	N11RGLC250KWT22Z, Balance,Variable
R407,R408	5104230	N14RLC100KWT22Z, Bass,Variable
R413,R414	5104230	N14RLC100KWT22Z, Treble,Variable
R509,R510	5210261	N06HR5KBC,Idling, Semi-fixed
R515,R516	442520824	8.2Ω,1/2W,Metal oxide film
R517,R518	441620824	8.2Ω,1W,Metal oxide film
R519,R520	4500031	0.22Ω,5W,Metal plate
R521,R522	442520824	8.2Ω,1/2W,Metal oxide film
R523,R524	441620824	8.2Ω,1W,Metal oxide film
R525-R528	442524794	0.47Ω,1/2W,Metal oxide film
R529,R530	441623914	390Ω,1W,Metal oxide film
R531,R532	442522224	2.2kΩ,1/2W,Metal oxide film
R903	442523304	33Ω,1/2W,Metal oxide film
R906	441721804	18Ω,2W,Metal oxide film
R907	441721514	150Ω,2W,Metal oxide film
R908	442524704	47Ω,1/2W,Metal oxide film
R911	442523314	330Ω,1/2W,Metal oxide film
R912	442522204	22Ω,1/2W,Metal oxide film
	Relaies	
RL501	25065396	NRL-2P1.25A-DC24-067
RL502	25065339	NRL-2P5A-DC24-046
	Terminals	
P301-P303	25045300	NPJ-6PDBL159,Input/output
P501	25060159	NTM-8PDMN085,Speaker
	Plugs	
P201	25055502	NPLG-16P477
P491	25055583	NPLG-7P554
P511,P512	25055493	NPLG-2P468
P601	25055499	NPLG-10P474
P602	25055501	NPLG-14P476

NOTE: <D>: Only 120V model
<P>: Only 230V/240V models
<W>: Only Worldwide model

CIRCUIT NO.	PART NO.	DESCRIPTION
	Plug	
P603	25055500	NPLG-12P475
	Clamp	
P991	260224	CP-1S
	Socket	
JL701a	25050610	NSCT-30P421
	Fuseholders	
F904a,F905a	250113	⚠ S-N5051 <D>
	25050065	⚠ YSH403T <P/W>
	Fuses	
F904,F905	252051	⚠ 6A(ST-6),Secondary <D>
	252078	⚠ 5A-SE-EAK,Secondary <P/W>
	Fuse Rating Labels	
F904b,F905b	29360419	T5A/250V <P/W>
	Radiator	
	27160262	Q501,Q502
	27160209	RAD-67

HEADPHONE TERMINAL PC BOARD (NAETC-4188-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
P504	25045255	YKB21-5009

DISPLAY CIRCUIT PC BOARD (NADIS-4189-1/1A/1B)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Remote Sensor	
U701	24130003	GP1U50XS
	FL Tube	
Q701	212099	11-BT-92GK
	ICs	
Q702	22240486	μ PD75212ACW-284
Q703	22240466	μ PD17103CX-531
Q705	22240211	μ PD6345C
Q706	22240341	BA6125
	Transistors	
Q707-Q709	2213284	2SC1740S-R
Q710-Q712	221282	DTC144ES
Q713	2213640	DTC123JS
Q714,Q716	2213830	DTB113ZS
Q715	2213510	DTA114ES
	Diodes	
D701,D702	224450623	MTZ6.2C,Zener
D713-D738	223163	1SS133
D740-D742	223163	1SS133
D743,D762	224450562	MTZ5.6B,Zener
D744-D748	223163	1SS133
D752-D754	223163	1SS133
D758	223163	1SS133
	L.E.Ds	
D703,D705	225137CG,	SEL2413ECG,
D707,D709	225137DG or	SEL2413EDG or
	225137DY	SEL2413EDY
D704,D706	225142	SEL2913K
D708	225142	SEL2913K
D710-D712	225142	SEL2913K
	Coil	
L701	233411K220	NCH-1387
	Ceramic Oscillators	
X701	3010163	CST4.19MGW
X702	3010154	CST8.00MT
	Capacitors	
C701,C705	353780109	1 μ F,50V,Elect.
C703,C704	353741009	10 μ F,16V,Elect.
C707	375524744	0.47 μ F±5%,50V,Plastic
C708	3000057	0.1F,5.5V,Super

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C710,C715	354780109	1 μ F,50V,Elect.
C711	353721019	100 μ F,6.3V,Elect.
	Resistor	
R742	49163104406	100k Ω × 6,1/10W,Network
	Switches	
S701-S703	25035548	NPS-111-S510
S705-S718	25035548	NPS-111-S510
S721-S742	25035548	NPS-111-S510
S746	25065286	NSS-22112,Band <W>
	Plug	
P702b	25055512	NPLG-5P487
	Socket	
JL701b	25050576	NSCT-30P387
	Holders	
Q702a	27190842	LED9
D711a	27190843	LED1

VOLUME AND SURROUND CIRCUIT PC BOARD (NAAF-4190-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q451	22240468	LC7536
Q453,Q454	22240247 or	BA15218N or
Q601,Q605	22240293	NJM4558L-D
Q602	22240458	NJM2175L
Q661	22240370	M50198P
Q691	22240339	LC7823N
Q692	22240270	LC7822N
Q871	22240239	TA7291S
	Transistors	
Q455-Q457	2213631 or	RN1241-A or
Q603,Q604	2213632	RN1241-B
	Diodes	
D451	223163	1SS133
D661,D662	223163	1SS133
D871	223163	1SS133
	Coil	
L661	233411K220	NCH-1387
	Ceramic Oscillator	
X661	3010169	CST3.27MGW002
	Capacitors	
C451,C452	391980227	2.2 μ F,50V,Elect.
C455,C456	354744709	47 μ F,16V,Elect.
C457,C458	391941007	10 μ F,16V,Elect.
C459,C460	391980227	2.2 μ F,50V,Elect.
C461,C462	391941007	10 μ F,16V,Elect.
C463,C464	354781099	0.1 μ F,50V,Elect.
C465,C466	374721024	1000pF±5%,50V,Plastic
C467,C468	354744709	47 μ F,16V,Elect.
C603-C608	391941007	10 μ F,16V,Elect.
C609-C612	354781099	0.1 μ F,50V,Elect.
C615,C616	374724734	0.047 μ F±5%,50V,Plastic
C617,C618	374722234	0.022 μ F±5%,50V,Plastic
C619-C622	354781099	0.1 μ F,50V,Elect.
C623,C624	354780479	4.7 μ F,50V,Elect.
C625-C629	354782299	0.22 μ F,50V,Elect.
C630,C632	391941007	10 μ F,16V,Elect.
C631	354786899	0.68 μ F,50V,Elect.
C635	374722224	2200pF±5%,50V,Plastic
C636	354724719	470 μ F,6.3V,Elect.
C637	374724734	0.047 μ F±5%,50V,Plastic
C638	374725624	5600pF±5%,50V,Plastic
C639	354742219	220 μ F,16V,Elect.
C640	391941007	10 μ F,16V,Elect.

NOTE: <D>: Only 120V model
<P>: Only 230V/240V models
<W>: Only Worldwide model

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C641	374723324	3300pF±5%,50V,Plastic
C642-C646	391941007	10μF,16V,Elect.
C648	374722224	2200pF±5%,50V,Plastic
C649-C652	391941007	10μF,16V,Elect.
C661	354780109	1μF,50V,Elect.
C662	374725624	5600pF±5%,50V,Plastic
C664	374721044	0.01μF±5%,50V,Plastic
C665	354744709	47μF,16V,Elect.
C666,C667	354784799	0.47μF,50V,Elect.
C668,C672	374721044	0.1μF±5%,50V,Plastic
C669	374725624	5600pF±5%,50V,Plastic
C671,C673	391921017	100μF,6.3V,Elect.
C674	374721044	0.1μF±5%,50V,Plastic
C675	375524744	0.47μF±5%,50V,Plastic
C871	391921017	100μF,6.3V,Elect.
	Resistor	
R481-R484	5144014A	N16RQL100KBT25F, Variable,Volume
	Sockets	
P601a	25050446	NSCT-10P270
P602a	25050448	NSCT-14P272
P603a	25050447	NSCT-12P271
P611	2000556	NSAS-6P512
P612	2009990024	NSAS-10P0048

RI/mR TERMINAL PC BOARD (NADG-4191-1/1A)

CIRCUIT NO.	PART NO.	DESCRIPTION
Q762	222780053	78L05,IC
Q764	221282	DTC144ES,Transistor <D>
Q765,Q766	221282	DTC144ES,Transistors
D761,D762	223163	1SS133,Diodes
D764,D765	223163	1SS133,Diodes
C767	354741009	10μF,16V,Elect. capacitor
C770	374724724	4700pF±5%,50V, Plastic capacitor
P761	25045172	HSJ-1003-01-020,Terminal RI
P762	25045293	HSJ-1003-01-012,Terminal mR
P951a	25050444	NSCT-6P268,Socket

OPERATION SWITCH PC BOARD (NASW-4192-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
S719	25035548	NPS-111-S510,Switch
S743,S744	25035548	NPS-111-S510,Switches
P702	25050456	NSCT-5P280,Socket

INPUT BALANCE VOLUME PC BOARD (NAETC-4193-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
R600	5104258	N11RGLC250KWT15Z, Variable resistor

TUNER CIRCUIT PC BOARD(NARF-4194-1/1A/1B)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Front End	
TU001	240088	FE337-A07 <D>
	240089	FE415-G11 <P/W>
	ICs	
Q104	22240039	LA1266
Q107	22240090	LM7001
Q201	22240242	AN7470
Q208	22240247 or	BA15218N or
	22240293	NJM4558L-D

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q101	2210746	2SC945A-P <P/W>
Q102	2211723	2SC1923-O
Q103	2213284	2SC1740S-R
Q105	2212445	2SK365-GR
Q106	2213284	2SC1740S-R
Q108,Q109	2213510	DTA114ES
Q202-Q204	2211945	2SK246-GR
Q205,Q206	2212794	2SD1468-R
Q207	2213510	DTA114ES
	Diodes	
D101,D102	223132	1K60
D103	224450512	MTZ5.1B,Zener
D201-D207	223163	1SS133
	Coils and Transformers	
L101	233401	NFIF-4072,IFT
L102	233402	NFIF-4073,IFT
L103	233411M022	NCH-1375
L104	233383	NMC-6070 <P/W>
L151	232148	NMRF-7050,AM RF block
L152	232139	NMIF-4062,IFT
L201,L202	233355A	NMC-4059,LPF
	Ceramic Filters	
X101	3010071	SFE10.7MA5
X102	3010071	SFE10.7MA5 <P/W>
X103	3010071	SFE10.7MA5 <D>
	3010130	SFE10.7MZ2 <P/W>
X151	3010123	SFZ-450JL
X152	3010076	BFU-450C
	X'tal	
X104	3010141	XTL-7.2M
	Capacitors	
C001	354741019	100μF,16V,Elect.
C106	354784799	0.47μF,50V,Elect.
C107	354742209	22μF,16V,Elect.
C108	354741019	100μF,16V,Elect.
C112	354780229	2.2μF,50V,Elect.
C113	354784799	0.47μF,50V,Elect.
C116	374722234	0.022μF±5%,50V,Plastic
C117	374723334	0.033μF±5%,50V,Plastic
C118	354780229	2.2μF,50V,Elect.
C119	354782299	0.22μF,50V,Elect.
C123	354721019	100μF,6.3V,Elect.
C124	354741019	100μF,16V,Elect.
C154	354780479	4.7μF,50V,Elect.
C155-C157	354741009	10μF,16V,Elect.
C159	374724734	0.047μF±5%,50V,Plastic
C160	374721034	0.01μF±5%,50V,Plastic
C161	354782299	0.22μF,50V,Elect.
C201	354744719	470μF,16V,Elect.
C202	354742209	22μF,16V,Elect.
C205	354782299	0.22μF,50V,Elect.
C206	354780109	1μF,50V,Elect.
C207	354780339	3.3μF,50V,Elect.
C208	370134714	470pF±5%,100V,Plastic
C209	374724734	0.047μF±5%,50V,Plastic
C211,C212	374721824	1800pF±5%,50V,Plastic <D>
	374721224	1200pF±5%,50V,Plastic <P>
	374721524	1500pF±5%,50V,Plastic <W>
C213,C214	354742209	22μF,16V,Elect.
C215,C216	354741009	10μF,16V,Elect.
C217,C218	374728224	8200pF±5%,50V,Plastic
C219,C220	374726224	6200pF±5%,50V,Plastic <D>
	374721824	1800pF±5%,50V,Plastic <P/W>

NOTE: <D>: Only 120V model
<P>: Only 230V/240V models
<W>: Only Worldwide model

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C221	374721034	0.01 μF±5%,50V,Plastic
C222	354780229	2.2 μF,50V,Elect.
C223	374721024	1000pF±5%,50V,Plastic <D>
C224	374724734	0.047 μF±5%,50V,Plastic
C225,C226	354741009	10 μF,16V,Elect.
	Resistors	
R101	5210266	N06HR100KBC,Semi-fixed
R102,R202	5210267	N06HR200KBC,Semi-fixed
R201	5210261	N06HR5KBC,Semi-fixed
	Terminal	
P101	25060160	NTM-4PDMN086 <D>
	25060087	NTM-2PDMN31 <P/W>
	Socket	
P201	25050449	NSCT-16P273

POWER SUPPLY CIRCUIT PC BOARD (NAPS-4195-1/1A/1B/1C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q951	221282	DTC144ES
Q952	2213650	DTD113ZS
	Diodes	
D951-D954	22380032	1SR139-100
D955	223163	1SS133
D995,D996	223163	1SS133
	Power transformer	
T902	2300670	⚠ NPT-1111D <D>
	2300671	⚠ NPT-1111P<P>
	2300672	⚠ NPT-1111DG <W>
	2300673	⚠ NPT-1111Q <Q>
	Capacitors	
C901	3500065A	⚠ DE7150FZ103PAC400V/125V,IS
C952	354761019	100 μF,35V,Elect.
	Resistors	
R901	431523355	⚠ 3.3MΩ,1/2W,Solid <D>
R951	442520824	8.2Ω,1/2W,Metal oxide film
	AC outlet	
P902	25050409	⚠ NSCT-4P234 <D>
	25050640	⚠ NSCT-4P451 <P/W>
	Switch	
S901	25065437	NSS-22157P,Voltage selector <W>
	Relay	
RL901	25065248	⚠ NRL-1P15A-DC12-29
	Fuses	
F901	252051	⚠ 6A ST-6,Primary <D/W>
F902	252076	⚠ 3.15A-SE-EAK,Primary <P/W/Q>
F903	252075	⚠ 2.5A-SE-EAK,AC outlet <P>
	Fuseholders	
F901a	250113	⚠ SN5051 <D/W>
F902a	25050065	⚠ YSH403T <P/W/Q>
F903a	25050065	⚠ YSH403T <P>
	Plug	
P951	25055497	NPLG-6P472

VIDEO AND REAR AMPLIFIER PC BOARD (NAAF-4196-1/1A)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q251	22240373	BA7625
Q571,Q572	22240467	SI-18751
Q881	22240247	BA15218N
	Transistors	
Q252,Q253	2213354	2SA933S-R
Q573,Q574	2211732 or	2SC1845-F or
	2211733	2SC1845-E
Q882	2213631 or	RN1241-A or
	2213632	RN1241-B
Q883	2213510	DTA114ES
	Diodes	
D251	223163	1SS133
D253,D254	223163	1SS133
D505,D506	223163	1SS133
D571-D574	223163	1SS133
	Coils	
L571,L572	231176	S-1.3C
	Capacitors	
C251,C252	391980227	2.2 μF,50V,Elect.
C253,C254	354724719	470 μF,6.3V,Elect.
C255	391921017	100 μF,6.3V,Elect.
C571,C572	391941007	10 μF,16V,Elect.
C577,C578	354741019	100 μF,16V,Elect.
C581,C582	374724734	0.047 μF±5%,50V,Plastic
C591,C592	391980227	2.2 μF,50V,Elect.
C593	354781099	0.1 μF,50V,Elect.
C881,C886	391941007	10 μF,16V,Elect.
	Resistors	
R581,R582	442520824	8.2Ω,1/2W,Metal oxide film
R583,R584	4000059	0.22Ω,2W,Metal plate
	Relaies	
RL505,RL506	25065339	NRL-2P5A-DC24-046
	Terminals	
P251	25045339	NPJ-4PDYE190,Video out.
P502	25060161	NTM-4PDML087,Rear speaker
P506	25045302	NPJ-1PDBL161,Center preout.
	Plug	
P612a	25055135	NPLG-5P119
	Sockets	
JL251	25050273	NSCT-9P101
JL571	25050272	NSCT-8P100
JL572	25050267	NSCT-3P95

REAR PREOUT. PC BOARD(NAETC-4199-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
P505	25045307	NPJ-2PDBL166, Rear preout. terminal

PRINTED CIRCUIT BOARD PARTS LIST

CAUTION: Replacement for transistor of mark ☆, if necessary must be made from the same beta group (HFE) as the original type.

MODEL TX-904

SELECTOR AND POWER AMPLIFIER PC BOARD
(NAAF-4187-2/2A)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q301	22240191	NJM4565D-D
Q302-Q306	22240247	BA15218N
Q307	22240270	LC7822N
Q308	22240280	LC7821N
Q309	22240339	LC7823N
Q401,Q402	22240247 or	BA15218N or
	22240293	NJM4558L-D
Q501,Q502	22240311	μPC1298V
Q801	22240247	BA15218N
Q851	22240211	μPD6345C
Q901	222780122NEC	78M12
Q902	222790125	79M12
Q903	222780565JRC	78M56
	Transistors	
Q403-Q406	2211945	2SK246-GR
Q491-Q494	2213631 or	RN1241-A or
	2213632	RN1241-B
Q496,Q497	2213510	DTA114ES
Q503,Q504	2213284	2SC1740S-R
Q505,Q506	2202523,	☆ 2SC4468-O,
	2202524,	☆ 2SC4468-Y,
	2202526,	☆ 2SC4468-P,
	2202292 or	☆ 2SC3182N-R or
	2202293	☆ 2SC3182N-O
Q507,Q508	2202513,	☆ 2SA1695-O,
	2202514,	☆ 2SA1695-Y,
	2202516,	☆ 2SA1695-P,
	2202282 or	☆ 2SA1265N-R or
	2202283	☆ 2SA1265N-O
Q531-Q534	2211732 or	2SC1845-F or
	2211733	2SC1845-E
Q561	2211792 or	2SA992-F or
	2211793	2SA992-E
Q861,Q905	221282	DTC144ES
Q862	2213510	DTA114ES
Q904	2213830	DTB113ZS
Q906	2213354	2SA933S-R
	Diodes	
D401-D404	223163	1SS133
D501,D502	223163	1SS133
D561	224450512	MTZ5.1B,Zener
D851,D905	223163	1SS133
D901	22380038	RBV602
D903	22380048	RBA402
D904,D906	22380032	1SR139-100
D907	224450913	MTZ9.1C,Zener
D908,D909	22380032	1SR139-100
D910	224452704	MTZ27D,Zener
D911,D912	223163	1SS133
D991-D994	223163	1SS133
	Coils	
L501,L502	231176	S-1.3C
	Capacitors	
C301,C302	373302214	220pF±5%,125V,Plastic <P/W>
C303,C304	391980227	2.2μF,50V,Elect.
C305,C306	373301024	1000pF±5%,125V,Plastic <P/W>
C307,C308	391921017	100μF,6.3V,Elect.
C309,C310	374726224	6200pF±5%,50V,Plastic
C311,C312	374721824	1800pF±5%,50V,Plastic
C313,C314	391941007	10μF,16V,Elect.
	Capacitors	
C315,C316	354744709	47μF,16V,Elect.
C317,C318	373303314	330pF±5%,125V,Plastic <P/W>
C391,C392	373303314	330pF±5%,125V,Plastic
C401,C402	391941007	10μF,16V,Elect.
C403,C404	354744709	47μF,16V,Elect.
C405,C406	374721534	0.015μF±5%,50V,Plastic
C409,C410	374721534	0.015μF±5%,50V,Plastic
C413-C416	374721044	0.1μF±5%,50V,Plastic
C417-C420	374721024	1000pF±5%,50V,Plastic
C441,C442	391941007	10μF,16V,Elect.
C491,C492	391941007	10μF,16V,Elect.
C501,C502	391941007	10μF,16V,Elect.
C507,C508	354742219	220μF,16V,Elect.
C513,C514	374726834	0.068μF±5%,50V,Plastic
C515,C516	374724734	0.047μF±5%,50V,Plastic
C517-C520	354700109	1μF,160V,Elect.
C533	391921017	100μF,6.3V,Elect.
C801,C802	391941007	10μF,16V,Elect.
C851	391921017	100μF,6.3V,Elect.
C905,C906	3504245	8200μF,50V,Elect.
C909,C910	3504213	4700μF,35V,Elect.
C913,C914	391941007	10μF,16V,Elect.
C915	354751029	1000μF,25V,Elect.
C917	391941007	10μF,16V,Elect.
C918	354761019	100μF,35V,Elect.
C919	354781019	100μF,50V,Elect.
C921	354754719	470μF,25V,Elect.
	Resistors	
R393	5104225	N11RGLC250KWT22Z, Balance,Variable
R407,R408	5104230	N14RLC100KWT22Z, Bass,Variable
R413,R414	5104230	N14RLC100KWT22Z, Treble,Variable
R509,R510	5210261	N06HR5KBC,Idling, Semi-fixed
R515,R516	442520824	8.2Ω,1/2W,Metal oxide film
R517,R518	441620824	8.2Ω,1W,Metal oxide film
R519,R520	4500031	0.22Ω,5W,Metal plate
R521,R522	442520824	8.2Ω,1/2W,Metal oxide film
R523,R524	441620824	8.2Ω,1W,Metal oxide film
R525-R528	442524794	0.47Ω,1/2W,Metal oxide film
R529,R530	441623914	390Ω,1W,Metal oxide film
R531,R532	442522224	2.2kΩ,1/2W,Metal oxide film
R903	442523304	33Ω,1/2W,Metal oxide film
R906	441721804	18Ω,2W,Metal oxide film
R907	441721514	150Ω,2W,Metal oxide film
R908	442524704	47Ω,1/2W,Metal oxide film
R911	442523314	330Ω,1/2W,Metal oxide film
R912	442522204	22Ω,1/2W,Metal oxide film
	Relaies	
RL501	25065396	NRL-2P1.25A-DC24-067
RL502	25065339	NRL-2P5A-DC24-046
	Terminals	
P301-P303	25045300	NPJ-6PDBL159,Input/output
P501	25060159	NTM-8PDMN085,Speaker
	Plugs	
P201	25055502	NPLG-16P477
P491	25055583	NPLG-7P554
P511,P512	25055493	NPLG-2P468
P601	25055496	NPLG-4P471
P602	25055500	NPLG-12P475

NOTE: <D>: Only 120V model
<P>: Only 230V/240V models
<W>: Only Worldwide model

CIRCUIT NO.	PART NO.	DESCRIPTION
	Plug	
P603	25055499	NPLG-10P474
	Clamp	
P991	260224	CP-1S
	Socket	
JL701a	25050610	NSCT-30P421
	Fuseholders	
F904a,F905a	250113	⚠ S-N5051 <D>
	25050065	⚠ YSH403T <P/W>
	Fuses	
F904,F905	252051	⚠ 6A(ST-6),Secondary <D>
	252078	⚠ 5A-SE-EAK,Secondary <P/W>
	Fuse Rating Labels	
F904b,F905b	29360419	T5A/250V <P/W>
	Radiator	
	27160262	Q501,Q502
	27160209	RAD-67

HEADPHONE TERMINAL PC BOARD (NAETC-4188-2)

CIRCUIT NO.	PART NO.	DESCRIPTION
P504	25045255	YKB21-5009

DISPLAY CIRCUIT PC BOARD (NADIS-4189-2/2A/2B)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Remote Sensor	
U701	24130003	GP1U50XS
	FL Tube	
Q701	212099	11-BT-92GK
	ICs	
Q702	22240486	μPD75212ACW-284
Q703	22240466	μPD17103CX-531
Q705	22240211	μPD6345C
Q706	22240341	BA6125
	Transistors	
Q707-Q709	2213284	2SC1740S-R
Q710-Q712	221282	DTC144ES
Q713	2213640	DTC123JS
Q714,Q716	2213830	DTB113ZS
Q715	2213510	DTA114ES
	Diodes	
D701,D702	224450623	MTZ6.2C,Zener
D713	223163	1SS133
D715-D738	223163	1SS133
D740-D742	223163	1SS133
D743,D762	224450562	MTZ5.6B,Zener
D744-D748	223163	1SS133
D752-D754	223163	1SS133
D758	223163	1SS133
	L.E.Ds	
D705,D707	225137CG,	SEL2413ECG,
D709	225137DG or	SEL2413EDG or
	225137DY	SEL2413EDY
D706,D708	225142	SEL2913K
D710-D712	225142	SEL2913K
	Coil	
L701	233411K220	NCH-1387
	Ceramic Oscillators	
X701	3010163	CST4.19MGW
X702	3010154	CST8.00MT
	Capacitors	
C701,C705	353780109	1 μF,50V,Elect.
C703,C704	353741009	10 μF,16V,Elect.
C707	375524744	0.47 μF±5%,50V,Plastic
C708	3000057	0.1F,5.5V,Super

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C710,C715	353780109	1 μF,50V,Elect.
C711	353721019	100 μF,6.3V,Elect.
	Resistor	
R742	49163104406	100kΩ×6,1/10W,Network
	Switches	
S701-S703	25035548	NPS-111-S510
S705	25035548	NPS-111-S510
S709-S718	25035548	NPS-111-S510
S721-S742	25035548	NPS-111-S510
S746	25065286	NSS-22112,Band <W>
	Plug	
P702b	25055512	NPLG-5P487
	Socket	
JL701b	25050576	NSCT-30P387
	Holders	
Q702a	27190842	LED9
D711a	27190843	LED1

VOLUME CIRCUIT PC BOARD (NAAF-4190-2)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q451	22240468	LC7536
Q453,Q454	22240247 or	BA15218N or
	22240293	NJM4558L-D
Q871	22240239	TA7291S
	Diode	
D871	223163	1SS133
	Capacitors	
C451,C452	391980227	2.2 μF,50V,Elect.
C457,C458	391941007	10 μF,16V,Elect.
C459,C460	391980227	2.2 μF,50V,Elect.
C461,C462	391941007	10 μF,16V,Elect.
C467,C468	354744709	47 μF,16V,Elect.
C871	391921017	100 μF,6.3V,Elect.
	Resistor	
R481,R482	5142006A	N16RGL100KBT25F, Variable,Volume
	Sockets	
P601a	25050443	NSCT-4P267
P602a	25050447	NSCT-12P271
P603a	25050446	NSCT-10P270
P612	2000589A	NSAS-6P545

RI/mR TERMINAL PC BOARD (NADG-4191-2/2A)

CIRCUIT NO.	PART NO.	DESCRIPTION
Q762	222780053	78L05,IC
Q764	221282	DTC144ES,Transistor <D>
Q765,Q766	221282	DTC144ES,Transistors
D761,D762	223163	1SS133,Diodes
D764,D765	223163	1SS133,Diodes
C767	354741009	10 μF,16V,Elect. capacitor
C770	374724724	4700pF±5%,50V, Plastic capacitor
P761	25045172	HSJ-1003-01-020,Terminal RI
P762	25045293	HSJ-1003-01-012,Terminal mR
P951a	25050444	NSCT-6P268,Socket

OPERATION SWITCH PC BOARD (NASW-4192-2)

CIRCUIT NO.	PART NO.	DESCRIPTION
S719,S745	25035548	NPS-111-S510,Switches
P702	25050456	NSCT-5P280,Socket

NOTE: <D>: Only 120V model
<P>: Only 230V/240V models
<W>: Only Worldwide model

TUNER CIRCUIT PC BOARD(NARF-4194-2/2A/2B)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Front end	
TU001	240088	FE337-A07 <D>
	240089	FE415-G11 <P/W>
	ICs	
Q104	22240039	LA1266
Q107	22240090	LM7001
Q201	22240242	AN7470
Q208	22240247 or	BA15218N or
	22240293	NJM4558L-D
	Transistors	
Q101	2210746	2SC945A-P <P/W>
Q102	2211723	2SC1923-O
Q103	2213284	2SC1740S-R
Q105	2212445	2SK365-GR
Q106	2213284	2SC1740S-R
Q108,Q109	2213510	DTA114ES
Q202	2211945	2SK246-GR
Q205,Q206	2212794	2SD1468-R
Q207	2213510	DTA114ES
	Diodes	
D101,D102	223132	1K60
D103	224450512	MTZ5.1B,Zener
D201,D202	223163	1SS133
D205-D207	223163	1SS133
	Coils and Transformers	
L101	233401	NFIF-4072,IFT
L102	233402	NFIF-4073,IFT
L103	233411M022	NCH-1375
L104	233383	NMC-6070 <P/W>
L151	232148	NMRF-7050,AM RF block
L152	232139	NMIF-4062,IFT
L201,L202	233355A	NMC-4059,LPF
	Ceramic Filters	
X101	3010071	SFE10.7MA5
X102	3010071	SFE10.7MA5 <P/W>
X103	3010071	SFE10.7MA5 <D>
	3010130	SFE10.7MZ2 <P/W>
X151	3010123	SFZ-450J
X152	3010076	BFU-450C
	X'tal	
X104	3010141	XTL-7.2M
	Capacitors	
C001	354741019	100μF,16V,Elect.
C106	354784799	0.47μF,50V,Elect.
C107	354742209	22μF,16V,Elect.
C108	354741019	100μF,16V,Elect.
C112	354780229	2.2μF,50V,Elect.
C113	354784799	0.47μF,50V,Elect.
C116	374722234	0.022μF±5%,50V,Plastic
C117	374723334	0.033μF±5%,50V,Plastic
C118	354780229	2.2μF,50V,Elect.
C119	354782299	0.22μF,50V,Elect.
C123	354721019	100μF,6.3V,Elect.
C124	354741019	100μF,16V,Elect.
C154	354780479	4.7μF,50V,Elect.
C155-C157	354741009	10μF,16V,Elect.
C159	374724734	0.047μF±5%,50V,Plastic
C160	374721034	0.01μF±5%,50V,Plastic
C161	354782299	0.22μF,50V,Elect.
C201	354744719	470μF,16V,Elect.
C202	354742209	22μF,16V,Elect.
C205	354782299	0.22μF,50V,Elect.
C206	354780109	1μF,50V,Elect.

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C207	354780339	3.3μF,50V,Elect.
C208	370134714	470pF±5%,100V,Plastic
C209	374724734	0.047μF±5%,50V,Plastic
C211,C212	374721824	1800pF±5%,50V,Plastic <D>
	374721224	1200pF±5%,50V,Plastic <P>
	374721524	1500pF±5%,50V,Plastic <W>
C213.C214	354742209	22μF,16V,Elect.
C215,C216	354741009	10μF,16V,Elect.
C219,C220	374726224	6200pF±5%,50V,Plastic <D>
	374721824	1800pF±5%,50V,Plastic <P/W>
C221	374721034	0.01μF±5%,50V,Plastic
C222	354780229	2.2μF,50V,Elect.
C223	374721024	1000pF±5%,50V,Plastic <D>
C224	374724734	0.047μF±5%,50V,Plastic
C225,C226	354741009	10μF,16V,Elect.
	Resistors	
R101	5210266	N06HR100KBC,Semi-fixed
R102,R202	5210267	N06HR200KBC,Semi-fixed
R201	5210261	N06HR5KBC,Semi-fixed
	Terminal	
P101	25060160	NTM-4PDMN086 <D>
	25060087	NTM-2PDMN31 <P/W>
	Socket	
P201	25050449	NSCT-16P273

POWER SUPPLY CIRCUIT PC BOARD (NAPS-4195-2/2A/2B/2C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q951	221282	DTC144ES
Q952	2213650	DTD113ZS
	Diodes	
D951-D954	22380032	1SR139-100
D955	223163	1SS133
D995,D996	223163	1SS133
	Power transformer	
T902	2300670	⚠ NPT-1111D <D>
	2300671	⚠ NPT-1111P<P>
	2300672	⚠ NPT-1111DG <W>
	2300673	⚠ NPT-1111Q <Q>
	Capacitors	
C901	3500065A	⚠ DE7150FZ103PAC400V/125V,IS
C952	354761019	100μF,35V,Elect.
	Resistors	
R901	431523355	⚠ 3.3MΩ,1/2W,Solid <D>
R951	442520824	8.2Ω,1/2W,Metal oxide film
	AC outlet	
P902	25050409	⚠ NSCT-4P234 <D>
	25050640	⚠ NSCT-4P451 <P/W>
	Switch	
S901	25065437	NSS-22157P,Voltage selector <W>
	Relay	
RL901	25065248	⚠ NRL-1P15A-DC12-29
	Fuses	
F901	252051	⚠ 6A ST-6,Primary <D/W>
F902	252076	⚠ 3.15A-SE-EAK,Primary <P/W/Q>
F903	252075	⚠ 2.5A-SE-EAK,AC outlet <P>
	Fuseholders	
F901a	250113	⚠ SN5051 <D/W>
F902a	25050065	⚠ YSH403T <P/W/Q>
F903a	25050065	⚠ YSH403T <P>

NOTE: <D>: Only 120V model
<P>: Only 230V/240V models
<W>: Only Worldwide model

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

CIRCUIT NO.	PART NO.	DESCRIPTION
	Plug	
P951	25055497	NPLG-6P472

VIDEO AND SUB AMPLIFIER PC BOARD (NAAF-4196-2/2A)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q251	22240373	BA7625
Q571,Q572	22240467	SI-18751
	Transistors	
Q252,Q253	2213354	2SA933S-R
Q573,Q574	2211732 or	2SC1845-F or
	2211733	2SC1845-E
	Diodes	
D251	223163	1SS133
D253,D254	223163	1SS133
D506	223163	1SS133
D571,D572	223163	1SS133
	Coils	
L571,L572	231176	S-1.3C
	Capacitors	
C251,C252	391980227	2.2 μ F,50V,Elect.
C253,C254	354724719	470 μ F,6.3V,Elect.
C255	391921017	100 μ F,6.3V,Elect.
C571,C572	391941007	10 μ F,16V,Elect.
C577,C578	354741019	100 μ F,16V,Elect.
C581,C582	374724734	0.047 μ F±5%,50V,Plastic
C583,C584	374721044	0.1 μ F±5%,50V,Plastic
C591,C592	391980227	2.2 μ F,50V,Elect.
C593	354781099	0.1 μ F,50V,Elect.
	Resistors	
R581,R582	442520824	8.2 Ω,1/2W,Metal oxide film
R583,R584	4000059	0.22 Ω,2W,Metal plate
	Relay	
RL506	25065339	NRL-2P5A-DC24-046
	Terminal	
P251	25045339	NPJ-4PDYE190,Video out.
	Plug	
P612a	25055133	NPLG-3P117
	Sockets	
JL251	25050270	NSCT-6P98
JL571	25050272	NSCT-8P100
JL572	25050267	NSCT-3P95

SERVICE PROCEDURES

1. Replacing the fuses

For continued protection against fire hazard, replace only with same type and same rating fuse.

Circuit no.	Part no.	Description
F901	252051	⚠6A ST-6,Primary fuse<D/W>
F902	252076	⚠3.15A-SE-EAK,Primary fuse <P/W/Q>
F903	252075	⚠2.5A-SE-EAK,AC outlet fuse<P>
F904,F905	252051	⚠6A ST-6,Secondary fuse<D>
	252078	⚠5A-SE-EAK,Secondary fuse <P/W/Q>

NOTE:<D>:Only 120V model
<P>:Only 230V model
<W>:Only Worldwide model
<Q>:Only 240V model

2. Change of FM/AM band step.

With the exception of the Worldwide model, a BAND STEP selector switch is not provided.

(FM)

BAND STEP	R723	J751
100kHz→50kHz	Addition	Open
50kHz→100kHz	Eliminated	Short

(AM)

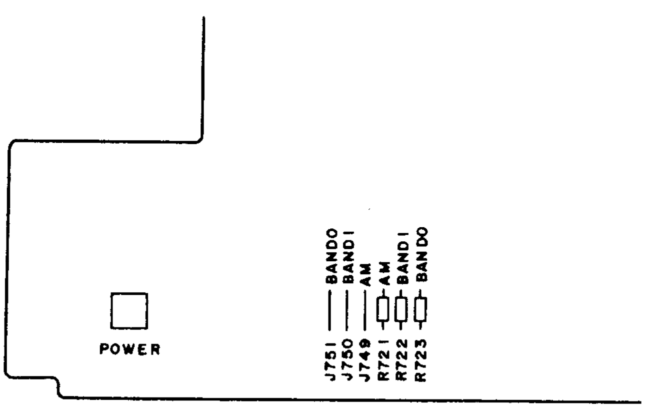
BAND STEP	R721	J749
10kHz→ 9kHz	Eliminated	Short
9kHz→10kHz	Addition	Open

In R721 and R722 Carbon resistor 100kΩ (Part No.417341044) are used.

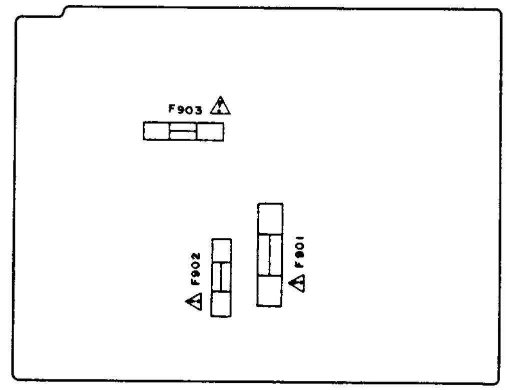
– Worldwide model –

Worldwide models are equipped with a step band selector switch. This switch is located on the back panel. This switch is set to 50kHz(FM)and 9kHz(AM)at the factory, but may have to be reset to 100kHz and 10kHz depending on the area where the unit is used.

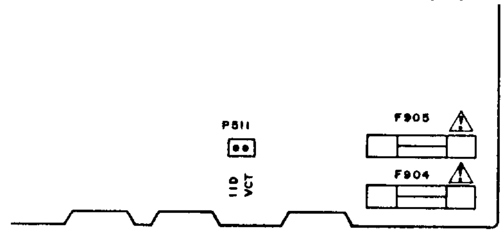
	De-emphasis	FM step	AM step
Europe:	50 μsec	50kHz	9kHz
U.S.A.:	75 μsec	200kHz	10kHz



DISPLAY CIRCUIT PC BOARD



POWER SUPPLY CIRCUIT PC BOARD



SELECTOR AND POWER AMPLIFIER PC BOARD

3. Memory preservation

This unit does not require memory preservation batteries. A built-in memory power back-up system preserves contents of the memory during power failures and even when the unit is unplugged. The unit must be plugged in and the power switch turned on and off once in order to charge the back-up system. Note that since this is not a permanent memory the power switch must be turned on and off a few times each month to keep the back-up system operative. The period of time during which memory contents are preserved after power has last been turned off varies depending on climate and placement of the unit. On the average, memory contents are protected over a period of 3 to 4 weeks (a minimum of 2 weeks) after the last time power has been turned off. This period is shorter when the unit is exposed to very high humidity or used in an area with an extremely humid climate.

4. Safety-check out

(Only U.S.A. model)

After correcting the original service problem perform the following safety check before releasing the set to the customer.

Connect the insulating-resistance tester between the plug of power supply cord and terminal GND on the back panel.

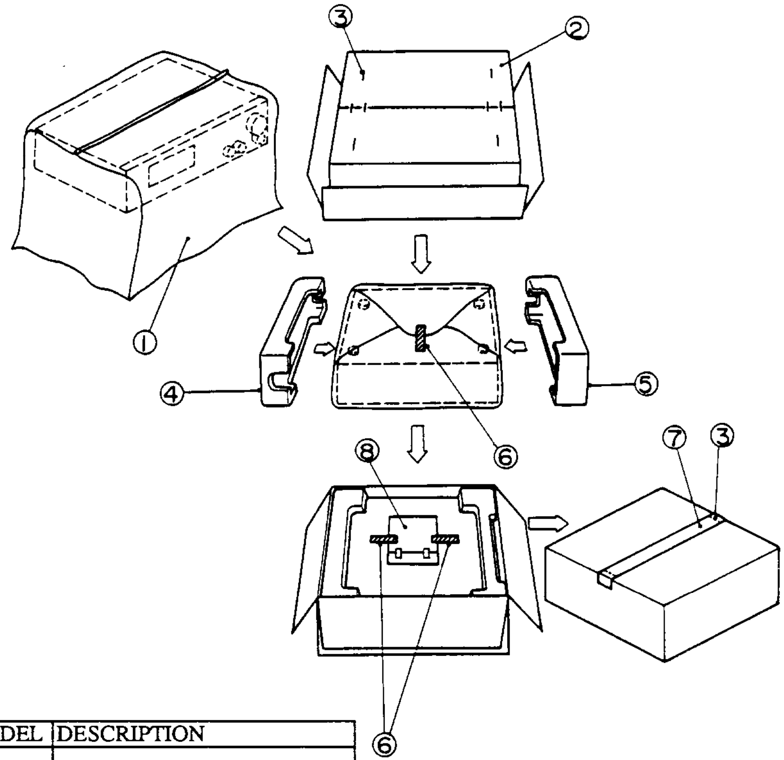
Specifications: 3.3 Mohm ±10% at 500V.

5. Change of voltage

Worldwide models are equipped with a voltage selector to conform with local power supplies. This switch is located on the back panel. Be sure to set this switch to match the voltage of the power supply in your area before turning the power switch on.

This switch is set to 220V at the factory. Voltage is changed by sliding the groove in the switch with the screwdriver to the right or left. Confirm that the switch has been moved all the way to the right or left before turning the power switch on.

PACKING VIEW



REF.NO.	PART NO.	PART NO.	MODEL	DESCRIPTION
	Model TX-906	Model TX-904		
1	29100034	29100034		850×650,Styrene bag
2	29052195	29052197		Master carton box
3	282320	282320		Sealing hook
4	29091449B	29091449B		Pad R
5	29091448B	29091448B		Pad L
6	261504	261504		Adhesive tape
7	29110071	29110071		Damplon tape
8	Accessary bag ass'y			
	29341628	29341628	D	Instruction manual
	29341629	29341629	P/W/Q	Instruction manual
	292064B	292064B	D	FM antenna
	292092	292092	P/W/Q	FM antenna
	232140	232140		NMA-3057,AM loop antenna
	2010200	2010200		Connection cord RI
	3010054	3010054		UM-3,Two batteries
	24140208		D	RC-208S,Remote control unit
		24140210	D	RC-210S,Remote control unit
	24140209		P/W/Q	RC-209S,Remote control unit
		24140211	P/W/Q	RC-211S,Remote control unit
	29365019A	29365019A	DN	Warranty card
	29365024	29365024	PF	Warranty card
	29358002J	29358002J	DN	Service station list
	25055018	25055018	W	CK-K-1,Conversion plug
	25060123	25060123	W/Q	FM antenna adaptor
	29100097	29100097		850×650,Styrene bag

NOTE: <D>:120V model
<P>:230V model
<W>:Only Worldwide model
<Q>:240V model
<DN>Only U.S.A. model
<PF>:Only French model

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